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ABSTRACT

This publication reports on a pilot program on Acquired Immune Deficiency Syndrome (AIDS) and life skills training implemented in 12 schools in Pretoria, Laudium, Cape Town, and Soweto (South Africa). Data were collected through pre- and post-questionnaires and focus group interviews. The purpose of the program was to provide adolescents with accurate information on which decisions about AIDS prevention behavior and tolerance towards people infected with the Human Immunodeficiency Virus (HIV) would be based. The program had 10 modules, each with specific teaching objectives; suggested teaching methods, teaching aids, and learning activities; and suggestions for additional reading. The modules addressed puberty and adolescence, relationships (e.g., peer, family, opposite sex), love, human sexuality, decision making, sexually transmitted diseases (STDs), and HIV/AIDS. Findings indicated that students showed a general improvement in AIDS-related knowledge topics as well as more positive perceptions of condom use, and more realistic perceptions regarding susceptibility, and the seriousness and outcomes of HIV/AIDS. There was also an increased perception of peer pressure to engage in sexual activity. A number of recommendations regarding the context of the program are outlined, first in terms of various survey fields and second with regard to the improvement of the program modules. Appendices include: descriptions of statistical techniques and survey fields; anova analysis; pre- and post-test mean scores; percentages on specific items; and prescribed reading materials. (Contains 36 references.) (ND)

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ED 407 372

AIDS PREVENTIVE EDUCATION AND LIFE SKILLS TRAINING PROGRAMME FOR SECONDARY SCHOOLS: DEVELOPMENT AND EVALUATION

A. Meyer-Weitz
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A. Meyer-Weitz
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Pretoria
Human Sciences Research Council
1992

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INDEX

		PAGE
1.	BACKGROUND AND AIM	1
1.1	BACKGROUND	1
1.2	AIM	1
2.	AIDS PROGRAMME: THEORETICAL BASE, CONTENT AND IMPLEMENTATION	2
2.1	THEORETICAL BACKGROUND ON WHICH THE PROGRAMME WAS BASED	2
2.2	THE CONTENT OF THE PROGRAMME	10
2.3	THE CONTENT OUTLINE OF THE MODULES PRESENTED	12
2.4	INTRODUCTION TO THE IMPLEMENTATION OF THE PROGRAMME	16
2.4.1	Parental involvement	18
2.4.2	Training of the educators	19
2.4.3	General remarks regarding the training sessions	23
2.5.	IMPLEMENTATION OF THE PROGRAMNE	24
3.	EVALUATION OF THE PROGRAMME (METHODOLOGY)	28
3.1	RESEARCH DESIGN	28
3.1.1	Qualitative investigation	28
3.1.2	Quantitative investigation	28
3.2	THE SAMPLE	29
3.2.1	The qualitative sample	29
3.2.2	The quantitative sample	29
3.3	SURVEY INSTRUMENTS AND COLLECTION OF DATA	31
3.3.1	Qualitative data	31
3.3.2	Quantitative data	31
3.4	ANALYSES OF THE DATA	32
3.4.1	Qualitative survey	32
3.4.2	Quantitative survey	32
3.5	PRESENTATION OF THE DATA	36
4.	FINDINGS	37
4.1	KNOWLEDGE OF AIDS-RELATED FACTORS	37
4.1.1	Knowledge of biological changes during puberty	37
4.1.2	Knowledge of the transmission of AIDS	39
4.1.3	Knowledge of prevention of HIV/AIDS	41
4.1.4	Knowledge of the protection against STDs	43
4.2	PERCEPTIONS OF AIDS RELATED ASPECTS	44
4.2.1	Perceptions of HIV/AIDS susceptibility	44
4.2.2	Perceptions of blood tests regarding HIV/AIDS	45
4.2.3	Perceptions of condom use	46
4.2.4	Awareness of availability of free condoms	48
4.2.5	Perceptions of social distance regarding HIV-infected people	49
4.2.6	Perceptions of peer group pressure regarding sexual behaviour	50
4.2.7	Perceptions of seriousness and outcome of HIV/AIDS	51
4.2.8	Attitude towards multiple sexual partners	53
4.3	COMMUNICATION REGARDING AIDS-RELATED FACTORS	54
4.3.1	Aids-related communication	54
4.3.2	Perceptions of information on sexual matters	55
4.3.3	Sources of information on HIV/AIDS	56
4.3.4	Communication preferences for information on HIV/AIDS	57
4.3.5	Preferred method of presentation of AIDS information	58
4.3.6	Awareness of AIDS information sources	59

4.4 AIDS RELATED BEHAVIOURAL INTENTIONS AND BEHAVIOUR 60
4.4.1 Behavioural intention to undergo a blood test should AIDS be suspected 60
4.4.2 Behavioural intention for protection against HIV infection 61
4.4.3 Perception of the meaning of the concept "sexually active" 64
4.5 GENERAL OVERVIEW OF CHANGE IN THE DIFFERENT SCHOOLS 64
4.6 EVALUATION OF THE PROGRAMME BY THE PUPILS 65
4.6.1 Quantitative evaluation 65
4.6.2 Qualitative evaluation 67
4.7 EVALUATION OF THE PROGRAMME BY THE EDUCATORS 73
4.7.1 Qualitative evaluation 73

5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS 76
5.1 SUMMARY OF FINDINGS 76
5.1.1 Knowledge, perceptions, behavioural intentions and communication regarding AIDS 76
5.2 CONCLUSIONS AND RECOMMENDATIONS 81
5.2.1 Content of the programme 82
5.2.2 Presentation of the programme 94

LIST OF SOURCES 99

APPENDIX 1: FIGURE 1: THE THEORY OF REASONED ACTION (AJZEN & FISHBEIN, 1980) 103
APPENDIX 2: STATISTICAL TECHNIQUES 104
APPENDIX 3: SURVEY FIELDS 110
APPENDIX 4: ANOVA ANALYSES 121
APPENDIX 5: DIFFERENCES IN MEAN SCORES IN POSTTESTING AND PRETESTING 122
APPENDIX 6: INDIVIDUAL ITEMS: PERCENTAGES 126
APPENDIX 7: PRESCRIBED READING MATERIALS FOR THE PRESENTATION OF THE MODULES 137
APPENDIX 8: REPORT ON SUBPROJECT: THE DEVELOPMENT OF AN EXPERIMENTAL THEATRE PROGRAMME FOR AIDS EDUCATION AT SECONDARY SCHOOL LEVEL - EUNICE MALAN 139

LIST OF TABLES

TABLE		PAGE
1	SAMPLE DIVISION ACCORDING TO SCHOOL AND SEX	30
2	KNOWLEDGE OF BIOLOGICAL CHANGES DURING PUBERTY	38
3	KNOWLEDGE OF TRANSMISSION OF HIV/AIDS VIA PROVED MEANS	40
4	KNOWLEDGE OF TRANSMISSION OF HIV/AIDS VIA CASUAL CONTACT	41
5	KNOWLEDGE OF PREVENTION OF HIV/AIDS	42
6	KNOWLEDGE OF PROTECTION AGAINTS STDS	43
7	PERCEPTIONS OF HIV/AIDS SUSCEPTIBILITY	45
8	PERCEPTIONS OF BLOOD TESTS FOR HIV/AIDS	46
9	PERCEPTIONS OF CONDOM USE	47
10	AWARENESS OF SOURCES OF FREE CONDOMS	48
11	PERCEPTIONS OF SOCIAL DISTANCE REGARDING HIV-INFECTED PEOPLE	49
12	PERCEPTIONS OF PEER GROUP PRESSURE REGARDING SEXUAL BEHAVIOUR	51
13	PERCEPTIONS OF SERIOUSNESS AND OUTCOME OF HIV/AIDS	52
14	ACCEPTABILITY OF MULTIPLE SEXUAL PARTNERS	53
15	COMMUNICATION REGARDING AIDS	55
16	INFORMATION ON SEXUAL MATTERS	56
17	SOURCES OF INFORMATION ON HIV/AIDS: AFFIRMATIVE ANSWERS	57
18	COMMUNICATION PREFERENCES FOR INFORMATION OF HIV/AIDS: AFFIRMATIVE ANSWERS	58
19	PREFERRED METHOD OF PRESENTATION OF AIDS INFORMATION: AFFIRMATIVE ANSWERS	59
20	AWARENESS OF AIDS INFORMATION SOURCES	60
21	INTENTION TO UNDERGO A BLOOD TEST	61
22	RESULTS OF THE REGRESSION ANALYSIS: INTENTION TO TAKE PRECAUTIONS AGAINST HIV INFECTION	63

1. BACKGROUND AND AIM

1.1 BACKGROUND

As there is no medical cure for AIDS so far, education is the only viable strategy to prevent its spread. Since adolescents are highly vulnerable to engage in high risk behaviour, such as drug use and sexual intercourse that increase their chances of contracting AIDS, special efforts should be made to educate them on the dangers involved. Although efforts should be directed at the establishment of low-risk behaviour patterns, the facilitation of tolerant attitudes to and behaviour towards HIV-infected people or people with AIDS (PWAS) is also necessary owing to the unfortunate stigma attached to AIDS.

1.2 AIM

The Department of National Health and Population Development's primary aim is to develop a comprehensive AIDS and life skills education package for secondary schools. In order to achieve this goal, five tenders were put out for various pilot AIDS programmes. A project was allocated to the HSRC and a pilot AIDS and life skills training programme was developed and evaluated to determine its effectiveness.

The pilot programme undertaken by the HSRC will be discussed in terms of the

*theoretical framework on which the programme was based,
*content of the programme,
*implementation of the programme,
*evaluation of the programme, in terms of the
  - method of evaluation,
  - sample,

- questionnaire,
- analyses and presentation of the data,
- findings.

Recommendations regarding possible improvements to the pilot programme will be discussed in the last chapter.

2. AIDS PROGRAMME: THEORETICAL BASE, CONTENT AND IMPLEMENTATION

2.1 THEORETICAL BACKGROUND ON WHICH THE PROGRAMME WAS BASED

As previously mentioned, adolescents are prone to engaging in high-risk behaviour and therefore need accurate information on HIV/AIDS. Sexuality should be addressed since AIDS is primarily transmitted through sexual acts. Normal physical development equips adolescents for physical intimacy but does not provide them with the necessary knowledge and interpersonal skills to regulate this intimacy. Other risk factors in contracting AIDS, such as drug use, should receive due consideration. Teenagers should be given accurate information on HIV/AIDS-related matters and be equipped with certain life skills. Training is needed to enable teenagers to regulate their behaviour through responsible decision making (Meyer, 1989).

Responsible decision making involves choosing not to become sexually active or choosing to be sexually active but with adequate protection against pregnancy, HIV infection or other sexually transmitted diseases. Furthermore it involves either choosing or deciding against engaging in other high-risk behaviour, such as the sharing of needles by drug users. A comprehensive AIDS and life skills training programme is a prerequisite for responsible decision making and preventive health care by teenagers. Such a programme should address the various factors which underlie preventive-behaviour (Anastasiow, 1987; Buie, 1987; Ladner, 1987; Population Reports, 1989). Although the fatal nature of the disease might necessitate an emergency AIDS programme to equip adolescents with knowledge on the disease, the limita-

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tions of such programmes should be recognized. An unfortunate characteristic of emergency programmes is that the long-term retention of vital knowledge is often very limited. Care should therefore be taken to ensure that all relevant information is effectively processed and fully internalized. The effective processing and internalization of information can be enhanced by applying various teaching strategies in the learning situation. Although the provision of information on AIDS will not alone be adequate to ensure responsible decision making and responsible behaviour, decisions and behaviour are primarily based on the information available to a person. Important factors, such as interpersonal and communication skills, tolerance for PWAS, motivation, a positive self-image, assertiveness training and decision making skills, should be addressed to enable adolescents to make and implement responsible decisions based on the accurate information they receive (Adler, 1979; Anastasiow, 1987; Buie, 1987; Ladner, 1987).

In accordance with the principles outlined above, the primary short-term objectives of the AIDS and life skills programme were

* to increase knowledge regarding AIDS-related matters;
* to facilitate appropriate attitudes underlying preventive health care and tolerance towards HIV-infected people;
* to provide some basic training in life skills such as negotiation, interpersonal communication and decision making.

The long-term objective of the programme is to establish behaviour patterns that prevent health risks and to promote tolerance towards persons with AIDS (PWAS).

In order to obtain the stated objectives, the programme was primarily developed within the framework of decision models with the theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) as the point of departure. This theoretical orientation rejects the notion that human behaviour is determined by uncontrollable desires or unconscious motives.

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Instead, the authors subscribe to the idea that people are, in general, rational beings who make systematic use of the information available to them. People will therefore normally consider the possible consequences of a specific kind of behaviour before they decide either to engage in the behaviour or not. It follows that people should have adequate and correct basic information available on which to base their decisions on important kinds of behaviour, such as sexual activity or tolerance towards HIV-infected people. Training programmes should inform adolescents meticulously about the facts on AIDS as a disease. They should also explain to the adolescent very precisely what the difference between high-risk and low-risk behaviour as regards contracting AIDS is, and why some kinds of behaviour are regarded as entailing a greater risk of infection and others less risk.

The eventual goal of a programme such as this one is to minimize high-risk sexual behaviour among adolescents. In terms of the theory of reasoned action, the **intention** to engage in a specific behaviour, or not to do so, is regarded as the most basic determinant of that behaviour (Fig. 1). That is, if we want to know if adolescents will in future engage in high-risk behaviour such as sexual activity and drug use, the best we can do is to ask them whether they intend doing so. Similarly, if we want to know if they intend practising low-risk behaviour, we will have to know what they intend doing. This means that if a programme is to promote low-risk behaviour to prevent AIDS among adolescents, **the right behavioural intention should be encouraged.** A thorough understanding of the underlying determinants of intentions is imperative in order to be able to influence their intentions.

According to this theory, intention is a function of two important factors. The first one, attitude towards the behaviour, is a personal factor which, in turn, is determined by beliefs (knowledge) about the consequences or outcomes of a certain kind of behaviour and the evaluation (good or bad; positive or negative) of these consequences. Adolescents might not be fully aware of the consequences of high-risk behaviour or of intolerance towards

HIV-infected people and a programme, besides providing information on AIDS as a disease, should be designed to inform adolescents specifically about the consequences of all possible kinds of high-risk behaviour that may cause AIDS and of the results of intolerance towards PWAS. With proper guidance, adolescents should also be able to evaluate correctly the possible positive or negative consequences of any activity. The second determinant of intention, the subjective norm, implies social influence. The subjective norm is determined by the actors'/adolescents' perception of the social pressures exerted by significant others (parents, peer groups, etc.) to either engage in or not engage in a certain kind of behaviour as well as the actors' (adolescents') motivation to comply with their wishes. Basically, the subjective norm is an indication of someone's perceptions of social pressures regarding a specific kind of behaviour, such as sexual behaviour, and a willingness to comply with these pressures. Programmes should therefore also be aimed at influencing significant others (especially peer groups) regarding low-risk behaviour to prevent AIDS and tolerance towards HIV-infected people as well as influencing the adolescent's motivation to comply with a general norm of practising low-risk AIDS-related behaviour at all times and being tolerant towards HIV-infected people.

Given the exposition so far it can be stated, in general, that people will tend to engage in a certain kind of behaviour (e.g. low-risk sexual behaviour) when they believe that important others think that they should practise low-risk behaviour. The relative importance (for the actor/adolescent) of the attitude toward the behaviour and of the subjective norm directly influence the behavioural intention (Appendix 1, Fig. 1). This relative importance may differ from one subgroup to another (e.g. adults vs. adolescents) and from one behavioural intention to another (e.g. condom use vs. drug use). The influence of peer group pressure among adolescents should not be underestimated. It can be expected that for adolescents the subjective norm will often have a powerful influence on behavioural intention, relatively independent of the adolescent's own atti-

tude toward the behaviour in question. This accentuates the need for educational programmes to be implemented in such a way that they reach the widest possible audience - in an attempt to establish a nationwide norm for low-risk AIDS-related behaviour for all adolescents.

The model of reasoned action recognizes the importance of other "external variables", such as demographic characteristics and personality traits, in determining behaviour (Ajzen & Fishbein, 1980). However, these external variables are important only in terms of their influence on the following:

* Beliefs that a certain kind of behaviour has certain outcomes
* The evaluation of the outcomes
* Beliefs about what others think of engaging in the behaviour
* The motivation to comply with the wishes of others
* The importance of the attitudinal and normative components

Consequently the "external variables" are important only in so far as they affect the determinants of the behavioural intention. There is not necessarily a relation between any given external variable and behaviour *per se*.

Although the theory of reasoned action (Ajzen & Fishbein, 1980) is undoubtedly one of the most important theoretical models in understanding and predicting behaviour today, it was decided to follow an eclectic approach. This *modus operandi* enabled the research team to clarify certain general notions on the theory of reasoned action and gave a more specific direction to the contents of the programme. The well-known Health Belief Model (HBM) can be cited as an example. According to the HBM (Kirscht, 1983, Leventhal, Meyer & Nereng, 1980; Leventhal, Safer & Panagis, 1983) the adoption of health-promoting behaviour practices is influenced by certain factors. One of these factors, the perceived susceptibility to developing a health problem can be regarded in terms of the model of reasoned action as a specific belief about the consequences of engaging in AIDS-related behaviour. Three other factors, namely the perceived severity of the illness, the perceived benefits of change and the perceived negative effects of change may - according to the

HBM - also influence the adoption of certain health behaviour practices. These factors can, in turn, be regarded as special instances of evaluating the consequences of the kind of behaviour. The last factor, namely a stimulus to change such as a symptom or a health message (fear/anxiety) (Janz & Becker, 1984) corresponds with the theory of reasoned action as a motivation for complying with the general public's opinion.

The concept of fear or anxiety as a motivational factor for the adoption of health-promoting behaviour practices was also taken into account since the lethality of AIDS could contribute to fear and anxiety about AIDS. According to the Fear Drive Model, fear produces subjective discomfort or tension which motivates action (Leventhal et al. 1983). The Dual Process Model views fear as an effective motivating factor when it is associated with the health threat itself, but only under some circumstances. For example great fear will engender feelings of hopelessness, and the individual may be less likely to take action. According to Bauman and Siegel (1987) all health communication has the potential to arouse fear. However the degree of threat involved should be such that it harnesses the motivational force for change without causing despair or denial. Bauman and Siegel (1987) feel that for people to be sufficiently motivated to initiate and maintain major changes in health behaviour such as practising safe sex or using sterilized needles when injecting drugs, they should experience a high degree of threat and anxiety. However they should also realize that they are capable of performing the preventive behaviour in question since this knowledge will help them to cope with the threat and anxiety. In terms of the model of reasoned action (Azjen & Fishbein, 1980) fear can be countered by knowledge of the consequences of particular kinds of behaviour. Fear of the consequences of a particular kind of behaviour will determine the attitude towards it, which partly determines behavioural intention.

As previously mentioned in the discussion on the model of reasoned action, it is clear that adolescents should be provided with sufficient information

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on AIDS-related aspects to enable them to make resposible decisions about the prevention of AIDS. Although information should be provided, care should be taken to ensure that such information is effectively processed. The information-processing approach of Baron & Byrne (1991) was taken into account in the pilot programme. According to this theoretical approach, the role of cognitive schemata in the three main cognitive processes, namely attention, the encoding and retrieval of information should be considered (Baron & Byrne, 1987, 1991). Attention refers to what you notice, encoding refers to what gets stored in your memory and retrieval refers to what actually is remembered later on (Baron & Byrne, 1987). Schemata guide the selective processing of social information, for instance when adolescents are convinced that only male homosexual men can contract AIDS, they may ignore information stressing the possibility that heterosexual people are vulnerable to HIV infection. It should also be borne in mind that various teaching strategies can enhance the processing of information and its internalization (learning). According to Gilbert (1986) and Rogel et al. (1980), information should be provided on an ongoing basis to ensure its complete internalization.

Apart from the provision of accurate information and its effective processing, cognizance should be taken of the role of cognitive development in adolescents and its influence on the utilization of available information. Cognitive skills that develop during adolescence are crucial for responsible decisions and AIDS preventive behaviour. Cognitive development enables the transition from concrete to formal operational thinking which implies a reduction in the egocentrism of the early adolescent years. The ability to recognize the potential consequences of actions as well as the ability to plan for the future does not develop until about the age of fourteen or fifteen years. These cognitive skills enable teenagers to process effectively and use the information made available to them and also to recognize the consequences of high-risk behaviour. Cognitive skills are also needed to un-

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derstand human reproduction, the way the AIDS virus is transmitted and health behaviour, such as the use of condoms.

In efforts to establish AIDS-preventive behaviour patterns and/or to effect changes in attitude and behaviour, the role of self-efficacy as described by Bandura (1977) could contribute to a better understanding of change. Bandura (1977) thinks that people's convictions about their own effectiveness in changing their behaviour will determine whether they will initiate a change in behaviour. Perceived self-efficacy will lead to expectations of success which in turn will affect coping efforts once action or change has been initiated. Adolescents whose self-assertiveness and feelings of efficacy enable them to resist peer pressure to engage in kinds of behaviour that have a high risk of HIV infection, will become even more self-assertive. Adolescents should therefore be encouraged to develop self-assertiveness and self-efficacy in order to initiate or maintain AIDS preventive behaviour.

In terms of the abovementioned theoretical frameworks, an AIDS and life skills training programme should convey complete and accurate information on the AIDS-related factors that partly determine tolerant behaviour towards HIV-infected people and AIDS preventive behaviour. Since the influence of the peer group can never be underestimated because of adolescents' great need to conform to the values of and be accepted by the group (Nathanson & Becker, 1986), adolescents should be made aware of the power of peer pressure to engage in behaviour that might risk their contracting HIV infection. The parents' role in the socialization of accepted community values should be considered and adolescents should be made aware of the difficulties of parenting. Special attention should be given to providing adolescents with the skills that will enable them to negotiate with the peer group about AIDS preventive behaviour. The concept of self-efficacy will play a significant role when teenagers believe that they are able to resist peer pressure to engage in any high-risk AIDS-related behaviour. However, note should also

be taken of the important role of other significant people, such as parents and teachers, in influencing adolescent behaviour. In this case the proper education of parents and teachers regarding AIDS-related factors should be considered. Parents and teachers should be able to assist adolescents to make informed, responsible decisions on AIDS.

2.2 THE CONTENT OF THE PROGRAMME

The programme constituted various modules in which certain concepts were addressed. The relevance of the different concepts was assessed in terms of the theoretical frameworks which served as background to the development of the programme. Although each module addressed a certain concept, the modules should not be viewed as separate entities but as integral to the whole programme. The distinction between the various modules was primarily drawn for presentation purposes. It should be borne in mind that several of the concepts addressed in different modules, for instance cognitive (knowledge/beliefs) and affective (attitudes, fear, stereotyping) concepts, are interrelated and reciprocally influence one another. These interrelated concepts form part of a dynamic interactive process and should be seen in this way.

The main focus of the programme was to provide adolescents with accurate information on which decisions about AIDS preventive behaviour and tolerance towards HIV-infected people could be based. The importance of providing adolescents with the necessary skills to implement their decisions on AIDS preventive behaviour and tolerance towards HIV-infected people was taken into account. Modules 1, 9 and 10 primarily addressed factual information on physiological development, sexually transmitted diseases (STDs) and AIDS. Although knowledge (beliefs) underlies the attitudes to a particular kind of behaviour, knowledge alone (the cognitive component of a programme) is not sufficient to facilitate positive attitudes to and the corresponding tolerance towards HIV-infected people or preventive health-care. Attention was

paid in Module 10 to the facilitation of tolerant attitudes and non-judgemental values regarding the HIV-infected person, by giving adolescents accurate information on and an awareness of the psychosocial impact of HIV infection on a person. Attitudes to certain AIDS preventive behaviour were addressed in Modules 8, 9 and 10.

The relatively important influence of significant other people (the subjective norm), such as parents and friends, on adolescent's behaviour was addressed in Modules 2, 3, 4, 5, 6, 7 in terms of their relationships with these people and related concepts such as love and sexuality. Self-assertiveness, interpersonal and negotiation skills were addressed throughout the modules, primarily by applying interactive learning methods. However in Module 8 decision making and negotiation skills regarding high-risk behaviour were specifically addressed. These skills were considered necessary to regulate peer relationships and to implement decisions on behaviour.

Each module had specific teaching objectives to be attained and contained suggested teaching methods, teaching aids and learning activities. Relevant content material and suggestions for additional reading were provided to the educators. They were to familiarize themselves with the content material before presenting the modules. Although the modules were numbered from one to ten and followed one another logically the educators could present the modules in any other preferred sequence. Moreover the modules were developed in a way that promoted individual thinking and decision making rather than providing all the answers. The suggested teaching activities were aimed at encouraging pupils to discover as much as possible for themselves and to search for causes and solutions with the guidance of the educator or facilitator. It was borne in mind that:

"What I hear, I forget;
What I see, I remember;
What I do, I know;

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What I discover, I use"

Enhancement of learning was sought through activities that required active participation by the pupils. The use of the small group was suggested as the basic unit in which learning should take place, owing to the dynamic interactive nature of small group discussions. In these groups the pupils would decide to a large extent what they needed to learn, thus ensuring that what they learned was relevant to them. The efforts to involve the pupils in small group discussions were aimed at encouraging the development of interpersonal skills, such as an awareness of others and of their opinions, listening, teamwork, dealing with conflict, negotiation, reaching consensus and decision making.

2.3 THE CONTENT OUTLINE OF THE MODULES PRESENTED

The content outline of the modules presented is as follows:

Module 1: Puberty and adolescence - a time of change. An introduction

TEACHING OBJECTIVES

Adolescence - a time of emotional change

* To facilitate an understanding of the concept "adolescence"
* To facilitate an understanding of the emotional feelings experienced by all adolescents
* To facilitate an understanding of adolescent behaviour
* To create an awareness of the emotional difficulties experienced by adolescents

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Reproduction

* To ensure accurate knowledge on anatomical and physiological changes:
  - Primary sexual characteristics
    - Menstruation
    - Ejaculation
  - Secondary sexual characteristics
    - Body shape
    - Sweat glands
    - Hair growth
* To ensure accurate knowledge on human reproduction.

Module 2: Relationships: An introduction

TEACHING OBJECTIVES

* To explore the concept "relationship"
* To facilitate an understanding of the qualities needed to develop relationships
* To facilitate an understanding of the factors that adversely influence relationships

Module 3: Family relationships

TEACHING OBJECTIVES

* To encourage the development of effective communication within the family
* To establish the needs of the adolescent in the family
* To enquire about areas of conflict between parents and teenagers
* To create an awareness of the difficulties of parenthood

Module 4: Peer group relationships

TEACHING OBJECTIVES

* To create an awareness of the factors that promote positive relationships
* To facilitate the development of the skills needed to manage peer pressure effectively

Module 5: Relationships with the opposite sex

TEACHING OBJECTIVES

* To create an understanding of the emotional reactions involved in heterosexual relationships
* To explore the kinds of behaviour involved in a heterosexual relationship

Module 6: Love

TEACHING OBJECTIVES

* To create an understanding of the concept "love"

Module 7: Human sexuality

TEACHING OBJECTIVES

* To create an understanding of the difference between "sex" and "sexuality"
* To explore stereotypes of sex roles and their implications

Module 8: Decision-making

TEACHING OBJECTIVES

* To explore the reasons why some adolescents become sexually active or use drugs
* To establish the difference between love and sex
* To analyze casual sexual encounters: reasons and consequences
* To assist teenagers to explore and choose values and beliefs
* To assist teenagers to develop the skills needed to make and to implement informed decisions
* To create an awareness of the consequences of teenage sexual activity, such as emotional hurt, contracting STDs and AIDS/HIV

Module 9: Sexually transmitted diseases (STDs)

TEACHING OBJECTIVES

* To create an awareness of STDs
* To create an awareness of the link between STDs and AIDS

Module 10: AIDS/HIV

TEACHING OBJECTIVES

* To increase knowledge on and understanding of the effect of the HIV virus on the body
* To increase knowledge of how the HIV virus is transmitted
* To enquire about myths and misconceptions about AIDS
* To raise awareness of high-risk behaviour versus high-risk groups
* To transmit knowledge of ways of preventing the spread of AIDS/HIV

* To develop an awareness of the AIDS/HIV-infected person's feelings and to develop a feeling of empathy towards AIDS sufferers.

2.4 INTRODUCTION TO THE IMPLEMENTATION OF THE PROGRAMME

During this phase permission was obtained from the various Education Departments to implement the programme in schools identified by them. This negotiation process was very time-consuming and took far longer than was anticipated. The following schools were identified:

Oos-Moot Hoërskool	Pretoria*
Pretoria-Wes Hoërskool	Pretoria*
Die Wilgers Hoërskool	Pretoria
Clapham High School	Pretoria*
Hillview High School	Pretoria*
The Glen High School	Pretoria
Laudium High School	Laudium*
Himalaja High School	Laudium
Cedar Secondary School	Cape Town*
Westridge Secondary School	Cape Town

Two schools in Soweto were also identified but the programme implemented there will be discussed in Appendix 8, because the primary teaching method of experimental theatre was used. This approach differed from the primary teaching methods used in the abovementioned schools, although the programme content was the same.

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* Experimental schools

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In collaboration with the Department of National Health and Population Development and the Department of Education and Culture it was decided that only Standard 7 pupils in the Transvaal would be subjected to the programme but that pupils both in Standards 7 and 8 in the Cape school should receive the programme.

After the necessary permission was granted, the principals of all the schools were contacted and interviews were arranged to discuss the AIDS and life skills education programme in detail. The principals of the experimental schools where the programme would be implemented were very positive about the programme and considered it was essential to educate adolescents about AIDS. The fact that the control schools where the programme would not be implemented would be used for evaluating the programme was explained to the principals of the respective schools in the control group and was accepted by them although some indicated that an AIDS programme should be implemented. Because of the time lost during the negotiations with the various Education Departments and the immanent exams, only a limited period of time could be allocated to the presentation of the programme in the schools. The programme would be implemented over a six-week period in which only one-and-a-half hours a week were allocated to the programme. The principals of the respective schools identified the teachers who would implement the programme. All of the teachers were trained guidance teachers with adequate experience. The teachers in the Afrikaans and English schools of the TED in Pretoria had also undergone recent training by the TED regarding their family guidance programme, in which AIDS had also been addressed but only as one of the sexually transmitted diseases. It was arranged that the teachers would attend three training sessions of three hours each in the use of the modules before the implementation of the programme. All the teachers - except the guidance teacher at one of the Afrikaans Schools in Pretoria - were keen to attend the training session. He felt that it would be a waste of time since he had already attended the TED training and considered it adequate. He would soon go on leave and would not be able to complete the

programme. However the principal decided that he should attend the training sessions.

Some of the suggestions by the Task Force on Pediatric AIDS (American Psychologist, 1989) for the development and implementation of a health education programme were followed. Prior to the implementation of the programme, efforts were made to involve parents in the programme and to train the educators in the use of the modules.

2.4.1 Parental involvement

The necessity of parental involvement for succeeding in sex and AIDS education programmes is well documented. The parents' acceptance of the programme and their concurrent education regarding AIDS will increase the likelihood that the impact of such a programme will be sustained over time. In terms of the model of reasoned action, the importance of parents as "significant others" in determining the behaviour of adolescents should not be underestimated. Parents have a major influence on the behaviour of adolescents, especially on their sexual behaviour.

Requests for the arrangements of parents' evenings during which the researchers and teachers of the respective schools would explain the programme and concurrently educate the parents about AIDS, were declined by most of the schools, except for the school in the Cape, because the year programme of the respective schools were already fully booked and a suitable date could not be arranged. However, the principals of the schools concerned suggested that a letter informing the parents about the programme and requesting permission for their children to participate in it was the only viable option and they considered it an adequate arrangement. It was also mentioned that parents' meetings were not always well attended either because of the parents' full schedule or their lack of interest. It was felt that it would be better if the parents granted permission in writing for their children to

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attend the AIDS programme in order to safeguard the school against possible future complaints, since AIDS education might be a sensitive matter.

Letters were sent to the parents of the Standard 7 and 8 pupils at the school in the Cape to inform them of the programme and to invite them to attend a parents' meeting. However only three parents turned up for the meeting and the programme was very informally discussed with them. According to the principal, the parents' lack of interest was the reason for their poor attendance.

Most of the pupils' parents in all the abovementioned schools were in favour of the AIDS and life skills education programme and granted permission for their children to participate in this programme.

Although the objective of educating the pupils' parents about AIDS during the anticipated parents' evening could not be attained, the parents were informed about AIDS by means of the booklets "Women and AIDS" or "Vroue en Vigs" that the teachers distributed to the parents. These booklets were supplied free of charge by the Department of National Health and Population Development.

2.4.2 Training of the educators

The guidance teachers who were responsible for the presentation of the programme underwent training in the use of the modules. The training was offered in four sessions of at least 2 hours each. A list of materials prescribed for the programme appears in Appendix 7. All the teachers in Pretoria received joint training but the teachers in the Cape Town school were trained as a separate group. Certain objectives were set for the training of the educators. The following aims were considered important to be effective AIDS educators:

- To be able to work co-operatively with community members, school boards and parents. Educators should be knowledgeable of and also sensitive to the values and needs of their community because the presentation of sexual information, and especially information on a deadly virus primarily transmitted by sexual acts and intravenous drug use, is a sensitive issue (Manning, Barenberg, Gallese & Rice, 1989). Educators should therefore be trained to play a significant role helping adolescents to assimilate the norms and values of their respective communities.

- To present the modules within the framework of their communities' cultural and religious values since the programme modules were not developed within a specific cultural and/or religious context. This approach was followed so that people who belonged to different cultural and religious orientations would be able to adapt the programme to their own values and religion. However, universal values - for instance personal responsibility - were stressed.

- To communicate effectively accurate facts on AIDS-related matters, such as the nature of HIV infection, the transmission of the HIV virus and the means of controlling its spread. They were made aware that regular updating of information was needed and that they should be responsible for updating their knowledge on AIDS. During the training sessions efforts were made to equip educators with correct information on AIDS-related aspects. Attention was also given to AIDS preventive behaviour and to tolerance towards HIV-infected people. Certain aspects covered in the modules, for example the biological changes during puberty as well as relationships, were briefly discussed since all the educators mentioned that they were familiar with the topics and had already gained some teaching experience on these topics.

- To be familiar with teaching methodology. Because of their training as teachers and their experience in teaching, the educators indicated that

they were adequately equipped with these teaching skills. Since a multimedium approach has been found to be most successful in enhancing the learning process (Lyons et al. 1989) the emphasis during the training sessions was placed on applying a combination of various methods and materials in the learning situation. It was stressed that one technique used in isolation did not constitute an agent for change. The success of communication does not necessarily lie in using a specific medium, but rather in the combined use of complementary and supplementary media (Carroll, 1991).

It was suggested that various modes of education could be used in communicating knowledge on AIDS/HIV and in teaching interpersonal and decision making skills. During the training sessions, various education techniques were discussed in terms of their effectiveness in the learning process. The techniques discussed are as follows: the didactic mode (lectures - but should preferably be limited to conveying factual information only); audiovisual media such as videos, slides and transparencies; printed matter; and experiential methodology such as group discussions, modelling and role play. A guest speaker was invited to discuss the use of participatory theatre and puppets in the education setting. The importance of learner participation was stressed throughout the training sessions. Active participation as a means of effecting attitudinal and behaviour change is well documented (Fishbein & Ajzen, 1975).

Educators were encouraged to motivate pupils to seek factual information on AIDS themselves. (The educators were given some booklets "Teenagers and AIDS" and other pamphlets and brochures to hand out to the pupils. The brochures and pamphlets are distributed by the Department of National Health and Population Development.) It was suggested that educators encourage the pupils to work on AIDS-related projects, such as making posters, and collages. An amount of R200 was allocated to each

school for this purpose. Since research indicates that the effectiveness of AIDS or sex education programmes is enhanced by using voluntary trained members of the peer group (Schwartz & Darabi, 1986) their possible use was discussed in the training sessions. These peer members can correctly inform their friends about AIDS-related facts as well as motivate their friends to make responsible decisions on AIDS-related behaviour. As previously mentioned, the influence of the peer group is significant since the need to conform to the values and be accepted by the group is great (Nathanson & Becker, 1986).

- To be comfortable about AIDS education and to be aware of their own feelings, biases, prejudices and values regarding sexuality and drug use (Quinn, Thomas & Smith, 1990). It was brought to their attention that only educators who are comfortable with the subject of sex would be able to conduct sex education successfully (Fetter, 1987). During the training session the educators were made aware that they should not impose their views on adolescents but rather guide them in the process of self-discovery. Because AIDS is lethal the educators should realize their responsibility to assist and guide adolescents in making informed and responsible decisions on AIDS preventive behaviour.

- To be knowledgeable about the pupils' cognitive developmental levels and their implications for learning. All the teachers indicated their awareness of the different developmental stages of pupils, owing to their training as teachers. However, the level of cognitive development of adolescents was discussed and it was stressed that the ability to recognize the potential consequences of actions as well as the ability to plan for the future does not develop until approximately the age of fourteen or fifteen years. This makes adolescents prone to engaging in high-risk behaviour and increases the need not only to provide them with adequate facts but also to equip them with decision making skills and the skills to implement these decisions. Since most of the suggested

learning activities were learner centred and mainly interactive in nature, the pupils could adapt the content of the programme to their own particular developmental level.

2.4.3 General remarks regarding the training sessions

The training sessions were characterized by lively participation and debate. The moral issues surrounding AIDS education were often brought up for discussion. There were differences within the group regarding the dissemination of information concerning high-risk sexual practices (sexual intercourse, oral and anal sex) and preventive behaviour, such as condom use as well as alternative preventive behaviour strategies, such as petting and masturbation. Some educators thought that pupils should receive all possible information about HIV/AIDS-related aspects in a factual way so that they would be able to make informed decisions. However, others felt that sexual intercourse and condom use should only be considered in terms of marriage and that sexual practices such as cunnilingus and fellatio should not be addressed at all. While some educators stressed that adolescents engage in some sexual practices that do not risk pregnancy but which can be considered as high-risk behaviour for AIDS infection, others felt that adolescents were not sexually active and that knowledge of these practices would increase promiscuity.

It was stressed that educators should be sensitive to the needs of the adolescents and also to the community's values. If adolescents asked about the risks involved in various sexual practices, educators should be honest and should discuss the matter factually. One teacher thought that sexually active teenagers would be able to put two and two together and come to the conclusion that they should use a condom to prevent HIV infection but some of the educators disagreed since they felt that it could not be assumed that adolescents would have this insight. The cognitive developmental level of

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adolescents might hinder them from realizing what the consequences of certain actions could be.

There were also differences regarding attitudes towards HIV-infected people. Although most of the educators felt that HIV-infected people should not be discriminated against and that prejudice should be avoided at all costs, one educator felt that although a person with HIV-infection should be handled with empathy, the person should be blamed because of his/her behaviour which led to the infection. This educator felt that the person's behaviour which led to HIV-infection should be condemned because of the great likelihood of the HIV-infected person's being either a homosexual or a prostitute. However this opinion elicited fierce reactions and arguments from the other educators. They stated that adolescents should be taught tolerance and acceptance of the HIV-infected person, regardless of the way in which HIV infection had occurred. One educator mentioned that educators could not encourage adolescents to reject an HIV-infected person's behaviour and simultaneously preach acceptance, tolerance and empathy towards the same person, because these views were irreconcilable.

2.5 IMPLEMENTATION OF THE PROGRAMME

The programme was implemented by the educators responsible in only the experimental schools. Although the teachers could use their own initiative in the presentation of the modules, most followed the suggested learning activities. All the educators presented the modules in the suggested sequence. The presentation of the modules will briefly be discussed in terms of the education techniques and aids used.

Since Module 1 was in most instances presented as an introduction to the programme the educators played an active role in presenting it. The emotional changes occurring during adolescence were investigated by means of the suggested interactive learning activities while the physiological

changes were investigated by means of lectures with the aid of transparancies and/or slides showing the reproductive organs. During these lectures enough time was allocated for questions and open discussions. In some of the schools the boys and girls were in separate groups during the discussions on the physiological changes that occur during puberty.

In most schools the modules on relationships and related issues such as love and human sexuality (**Modules 2, 3, 4, 5, 6, 7**) were presented in accordance with the suggested learning activities. The educators acted mainly as facilitators in the presentation of these modules, thus encouraging the pupils to think critically and to develop a better understanding of the various issues addressed in the modules. Group discussions and the technique of brainstorming was often used. In most instances group discussions were conducted in mixed groups of boys and girls.

However, in one of the Afrikaans schools in Pretoria, Modules 1 to 7 were not dealt with in great detail by the educators themselves since the pupils had previously attended a one-day workshop presented by the TED in their school's family guidance programme during which these issues had been dealt with. The educators who had attended this workshop indicated that some attention had been given to the key aspects addressed in the modules. The small group was most often used as a learning unit for these modules. The small groups had to report back to the larger group to share the conclusions they had reached in the small groups. Participation was encouraged at all times.

Module 8 addressed making decisions on engaging in sex, and using drugs and alcohol. This module was primarily presented in accordance with the suggested interactive learning activities. The pupils were also given individual questionnaires on the reasons why teenagers engage in high-risk behaviour that could lead to AIDS. It is important to note that attention was not only paid to decisions on sexual behaviour but to other issues

also, such as drug and alcohol use. Various case studies were presented and pupils were encouraged to collect their own case studies for discussion purposes. Role play was used to equip pupils with the skills needed to make and implement decisions. For instance the pupils were provided with various examples of answers they could use or from which they could improvize their own answers to counteract pressure from friends to perform unacceptable behaviour. The pupils had the opportunity to verbalize these answers and to give reasons for their decisions during the role play sessions. This also provided an opportunity for the development of assertiveness.

Because of the amount of factual information conveyed in **Modules 9 and 10,** most of the pupils received some lectures on the basic facts regarding STD and AIDS. Teaching aids, such as transparencies and slides, were used to convey these facts. The suggested interactive learning activities were used to reinforce the information conveyed in the lectures. Role play and group discussions were utilized when addressing changes in attitudes towards HIV-infected people.

Printed material was successfully used for **Module 10.** Most of the educators provided the pupils, for self-study purposes, with the booklet "Teenagers and AIDS" as well as with various pamphlets on HIV/AIDS which are distributed by the Department of National Health and Population Development.

Although the educators were encouraged to motivate the pupils to engage in various projects on AIDS-related topics, such as the development of visual material (posters) and collages, only two schools produced projects. One pupil at an English school in Pretoria produced a poster on "AIDS and the unborn baby" while numerous pupils in the Laudium English school worked on projects ranging from the epidemiology of AIDS, its transmission modes, signs and symptoms, to behaviour towards HIV-infected people. Two pupils at the same school each worked on an AIDS reference book. The books consisted of a detailed index of related topics. The pupils either wrote on various

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topics themselves or used informative articles which had been pasted into the book. The idea was that these books would be placed in the library for reference purposes by pupils. The regular updating of information of these sources of references was considered.

Only one school (Laudium High School) reported having an AIDS week during which various activities took place. Guest speakers (from ATIC) were invited to talk to the pupils about AIDS. In their presentation they used audiovisual material such as transparencies and interesting slides they had produced themselves. A person with AIDS was also invited to the school on the same day but unfortunately the appointment had to be cancelled owing to the deterioration in this person's health. During this week all the teachers were involved in AIDS education by including some information on AIDS in the various subjects they taught. For instance the language teachers asked the pupils to write an essay on any AIDS-related topic, the biology teachers explained the altered immune system of the HIV-infected person, etc. The pupils who were subjected to the programme arranged an exhibition of their projects at a central point in the school for all the pupils to see.

During break some of the existing peer counsellors were available at the exhibition to answer questions from other pupils. In this particular school, peer group counsellors played a significant role in educating their peers about various serious issues, such as drug use, alcohol abuse and sexuality. The guidance teacher gave some additional training regarding the programme to these trained peer counsellors, but they were trained particularly on AIDS-related factors. These counsellors were used to enhance the programme by giving their friends accurate information on AIDS and also by motivating them to make responsible decisions on AIDS preventive behaviour.

3. EVALUATION OF THE PROGRAMME (METHODOLOGY)

The evaluation of the programme was quantitative and qualitative in nature. The evaluation of the programme will be discussed in terms of the research design used, the sample, the instruments for the collection of the data and the statistical analyses of the data.

3.1 RESEARCH DESIGN

3.1.1. Qualitative investigation

Focus group interviews were conducted with pupils of the experimental schools after the programme had been completed. Focus group interviews were used because of the dynamic nature of the small group and its information generation possibilities. Individual interviews were also conducted with some of the teachers of the experimental schools after the completion of the programme.

3.1.2 Quantitative investigation

It was decided that a pretest-posttest control group design (Campbell & Stanley, 1966) would be the most appropriate experimental design to determine the effectiveness of the programme. In this design, experimental and control groups are selected at random (T).

O1 X O2

T

O3 O4

Dependent variables are measured for both groups (01 and 03) with an appropriate questionnaire. The independent variable X (the programme) is then applied to the experimental group only. As the final step the dependent variables are measured again for both groups (02 and 04). The equivalence of the experimental and control groups can be measured by comparing 01 with 03. The effect of the independent variable (the programme) will be evident in the comparison of the difference between 01 and 02 and the difference between 03 and 04. The control group provides a baseline against which the effects of the experimental treatment can be evaluated. By using a control group we would be reasonably confident that any differences between the groups after treatment were, in fact, due to the treatment itself. The dependent variables, such as knowledge and attitudes regarding AIDS-related factors as well as behaviour intention in terms of AIDS preventive behaviour, were investigated. Factors such as social distance regarding HIV-infected people and the perception of social pressure to engage in sexual activity were also investigated.

3.2 THE SAMPLE

3.2.1 The qualitative sample

With regard to the qualitative sample one focus group interview with girls and one with boys per school standard were conducted at each experimental school. Each focus group consisted of five pupils who were randomly selected from class lists by the researcher (N=70). Interviews were also conducted with some of the teachers who were responsible for the implementation of the programme in their respective schools (N=6).

3.2.2 The quantitative sample

As previously mentioned, the schools were selected by the various Education Departments on the basis of their similarity in each subgroup and were ran-

domly assigned to the experimental and control groups. The identified schools are as follows:

TABLE 1: SAMPLE DIVISION ACCORDING TO SCHOOL AND SEX

			Pre-test		Post-test	
			N	%	N	%
School		Sex				
Cape Afrikaans:						
Cedar High	(E)	Male	188	10.8	199	11.4
		Female	135	7.8	129	7.4
Westridge High	(C)	Male	83	4.8	81	4.6
		Female	81	4.7	75	4.3
Laudium English:						
Laudium High	(E)	Male	74	4.3	80	4.6
		Female	77	4.4	75	4.3
Himalaya High	(C)	Male	76	4.4	75	4.3
		Female	93	5.3	94	5.4
Pretoria English:						
Hillview High	(E)	Male	60	3.5	65	3.7
		Female	72	4.1	75	4.3
Clapham High	(E)	Male	56	3.2	54	3.1
		Female	81	4.7	81	4.6
Glen High	(C)	Male	73	4.2	78	4.5
		Female	79	4.5	76	4.3
Pretoria Afrikaans						
Pretoria Wes Hoer	(E)	Male	48	2.8	50	2.9
		Female	93	5.4	93	5.3
Oos-Moot Hoer	(E)	Male	70	4.0	68	3.9
		Female	98	5.6	105	6.0
Die Wilgers Hoer	(C)	Male	95	5.5	93	5.3
		Female	107	6.2	106	6.1
TOTAL			1739	100.2	1752	100.3

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3.3 SURVEY INSTRUMENTS AND COLLECTION OF DATA

3.3.1 Qualitative data

The programme was qualitatively assessed through focus group interviews with pupils after they had completed the programme. This was done by means of an interview schedule in which primary questions were posed. Additional probing questions were asked when necessary. The questions correspond with those of the questionnaire for the quantitative study. The interviews were conducted by the researchers in the language (English or Afrikaans) preferred by the respondents. Individual interviews using an interview schedule were conducted with some of the teachers after the completion of the programme.

Each module was assessed by the educators themselves according to certain criteria set out in a schedule.

3.3.2 Quantitative data

The quantitative evaluation of the programme was conducted by means of a pretested questionnaire. This questionnaire was developed by researchers of the HSRC in co-operation with representatives of the AIDS Unit of the Department of National Health and Population Development.

The questionnaire addressed the pupils' awareness of AIDS, and their knowledge of physiological development, STDs, the modes of transmission and HIV preventive behaviour. Attitudes were measured towards teenage sexual activity and condom use as well as the role of the peer group and "significant others" in terms of teenage sexual activity and condom use. The presence of AIDS preventive behavioural intentions was also established as well as feelings of social distance towards HIV-infected people. The communication and information needs of the pupils regarding AIDS and their current and preferred sources of AIDS information were researched. Factors such as

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their evaluation of the programme and suggestions for improving it were covered in the postquestionnaire after the completion of the programme in the experimental schools only.

3.4 ANALYSIS OF THE DATA

3.4.1 Qualitative survey

Owing to the qualitative nature of this part of the study (focus group interviews with the pupils and in-depth individual interviews with the teachers) and the relatively small number of respondents involved, no inferential statistical analyses were performed. Only a description of the data will be given.

3.4.2 Quantitative survey

Statisticians of the Information Dynamics Group of the HSRC were consulted regarding appropriate statistical analyses for the quantitative data.

Optimal scaling

It was necessary to convert several of the categoric variables to real variables in order to facilitate the statistical processing of the findings. The process by which real numbers are assigned to the categoric "Yes", "No" and "Uncertain/Do not know" responses is called optimal scaling (Du Toit & Strasheim, 1987; Nishisato, 1982; Rall & Thiele, 1986). This technique is described in Appendix 2.

Factor analysis

A factor analysis with Varimax rotation (technique described in Appendix 2) was carried out to determine which items could be grouped together. The following eight factors were extracted (Appendix 3)

I. Subgroup 1: Knowledge of biological changes during puberty
Subgroup 2: Knowledge of transmission of AIDS/HIV by proved means
Subgroup 3: Knowledge of prevention of HIV/AIDS
Subgroup 4: Perceptions of HIV/AIDS susceptibility
Subgroup 5: Perceptions of blood tests for HIV/AIDS
Item: Acceptability of multiple sexual partners
Item: Information on sexual matters
Item: Intention to undergo a blood tests

II. Knowledge of transmission of AIDS/HIV by casual means

III. Perceptions of condom use

IV. Perceptions of social distance regarding HIV-infected people

V. Perceptions of peer group pressure regarding sexual behaviour

VI. Communication regarding AIDS

VII. Perceptions of seriousness of and outcome of HIV/AIDS

VIII. Knowledge of protection against sexually transmitted diseases.

Total scores were calculated for factors two to eight. Factor 1 was however divided into five subgroups on the basis of different subjects of knowledge, and total scores were calculated for each of the subgroups. Certain items in factor 1 were indeed considered individually for theoretical and practical purposes. (The factor loadings for the different items contained in each total score appear in Appendix 3).

Variance analysis

A multivariate variance analysis (MANOVA) was carried out jointly in respect of all the knowledge, attitudinal and behavioural items. This analysis was

a multivariate generalization of variance analysis for the testing of equivalence of means for a number of subpopulations (Morrison, 1976:175). This technique is increasingly being used for the analysis of multivariate data sets. It is standard practice to do the necessary calculations by means of computer program packages (see for example the SAS Procedure: PROC GLM). In MANOVA the statistical inference is based on the following assumptions:

1. The data set is derived from a multivariate normal population with equal subgroup covariance matrices.
2. The subgroup is a collection of mutually independent data sets.

Variance analysis is basically a technique for comparing means. If there is a large number of observations from each subgroup, it follows from the hypothesis of central limits that the group sample means will approximate a normal distribution, irrespective of the actual distribution form which the observations were derived.

Most of the statistical tests for the equivalence of covariance matrices are very sensitive to deviations from normal. This is why a MANOVA is generally used unless the differences between the group covariance matrices is highly significant.

In this case the multivariate variance analysis (MANOVA) was used to determine if there were overall significant differences in design, sex and group. Note that, strictly speaking, the requirements for Assumption 2 above were not met, since the same scholars participated in both surveys.

The explanatory variables (predictors) used in the variance analysis are the following (the categories of each variable are indicated):

Design: precontrol; postcontrol; pre-experimental; postexperimental
Sex: Male, Female

Group: Pretoria Afrikaans; Pretoria English; Cape Afrikaans; Laudium English

These variables, next to design, were included in the model so that the observed counselling effect could be ascribed purely to the design and could not be influenced by the other variables. As far as the variable sex is concerned, it is possible that the results for boys and girls could differ. The same could apply to the four groups that differed geographically/culturally from one another. Since overall differences should be noted, a summary of the MANOVA analysis is given here rather than in the chapter on the findings:

Source of variance	F value	d.f.	F value
Design	13.58	42 and 10289	0.0001
Sex	63.74	14 and 3431	0.0001
Group	37.10	42 and 10289	0.0001

The above table indicates that there are highly significant overall design, sex and group differences.

An ANOVA (univariate variance analysis) was carried out in respect of each total score and a few items that were regarded as separate in order to determine which of the total scores contributed to these highly significant effects. DUNCAN's multivariate comparative process was used for the purpose of this analysis (SAS, 1990 manual). The same explanatory variables with the same categories as those used in the ANOVA were also utilized here.

According to Prof. S.H.C. du Toit (personal conversation - guest researcher at the HSRC) it can be theoretically indicated that the relevant F tests are generally conservative when the assumption of independence is ignored. The term "conservative" implies that a result that is not significant at for in-

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stance the 1 % level of significance, may actually be significant at this level if it were possible to use paired observations.

Regression analysis

A multiple regression analysis was carried out in respect of only one item, namely the respondents' behavioural intention to protect themselves against HIV infection. In regression analysis an attempt is made to describe by means of a mathematical model the link or relation between a dependent variable, for example behavioural intention, and a set of explanatory variables, for example total scores and gender. The regression coefficients occurring in such a model, measure the partial influence of the explanatory variables on the dependent variable, in other words a coefficient indicates the influence of a specific explanatory variable if the other explanatory variables are kept constant. R^2 indicates the part of the variance explained by th set of explanatory variables in a linear model. The multiple regression analysis was done using the computer program SAS PROC GLM.

The same categoric explanatory variables used in the other analyses were used as explanatory variables in the regression analysis.

3.5 PRESENTATION OF THE DATA

The results of the statistical analyses (ANOVA, DUNCAN) were presented in tables. Only the statistically significant results were reported. Where applicable percentages were reported. Percentages for desired responses to individual questions are presented in Appendix 6 and are not further discussed.

The findings of this study will be discussed in the next chapter.

4. FINDINGS

The findings will be discussed in terms of the following:

Knowledge of

* biological changes during puberty,
* transmission of AIDS,
* prevention of HIV/AIDS,
* protection against STD.

Perceptions and attitudes of

* HIV/AIDS susceptibility,
* blood tests regarding HIV/AIDS,
* condom use,
* social distance regarding HIV-infected people,
* social pressure regarding sexual behaviour,
* seriousness and outcome of HIV/AIDS,
* multiple sexual partners.

AIDS related communication.

Behaviour intention.

General overview of changes.

Evaluation of the programme by the pupils.

Evaluation of the programme by the educators.

4.1 KNOWLEDGE OF AIDS-RELATED FACTORS

4.1.1 Knowledge of biological changes during puberty (Factor 1, subgroup 1)

In order to determine what respondents know about the biological changes necessary before pregnancy can occur, two questions were asked regarding menstruation and ejaculation (Appendix 3.1). One point was allocated for each correct answer while incorrect answers received no points. A total score was calculated. A minimum of 0 and a maximum of 2 points could be obtained.

According to the results of the ANOVA analysis, the variables, sex and group, played a statistically significant role. The F values which indicate the significance of each independent variable, appear in Appendix 4:1. For

the purpose of this study the 5 % level of statistical significance was used for the interpretation of the data. Therefore if the probability of exceedance (p value) is smaller than 0,05, a significant association exists between the independent and the dependent variable. The data in the rest of the report can be interpreted in the same way. Only the variables that are statistically significant according to the ANOVA analyses will be discussed.

TABLE 2: KNOWLEDGE OF BIOLOGICAL CHANGES DURING PUBERTY

DUNCAN GROUPING	MEAN	N	SEX
A	1.0455	1628	Male
B	1.0117	1801	Female
DUNCAN GROUPING	**MEAN**	**N**	**GROUP**
A	1.0779	629	Laudium English
B	1.0339	944	Cape Afrikaans
C B	1.0117	1023	Pretoria Afrikaans
C	1.0024	833	Pretoria English
DUNCAN GROUPING	**MEAN**	**N**	**DESIGN**
A	1.0368	679	Precontrol
A	1.0256	664	Postcontrol
A	1.0255	1059	Postexperimental
A	1.0253	1027	Pre-experimental

Minimum value: 0

Maximum value: 2

* The mean for Laudium English (A) differs from all of the rest. The mean for Cape Afrikaans (B) does not differ from Pretoria Afrikaans (B and C) which does not differ from Pretoria English (C).

Table 2, which shows the results of the multivariate comparative procedure (DUNCAN), is interpreted on the basis that the means with the same alphabetical letter(s) (for instance A, A and A) do not differ statistically from one another while those with different alphabetical letters (A, B, C) differ statistically from one another. (The tables in the rest of the report can be interpreted in the same way.) When the data are interpreted it should be borne in mind that the higher the mean, the better the knowledge. It appears that the boys had a higher mean score than the girls and thus were more knowledgeable about biological changes during puberty than the girls. Furthermore the pupils from the Laudium English schools were the most knowledgeable while those in the Pretoria English schools were the least knowledgeable.

4.1.2 Knowledge of transmission of AIDS

A total of 21 questions were asked in this regard and were subdivided according to transmission via proved means (13 items) and transmission via casual contact (8 items).

a. Transmission via proved means (Factor 1, subgroup 2)

The items included in this field appear in Appendix 3.2. A total score was calculated using the technique of optimal scaling. The minimum value that respondents could obtain was 0 and the maximum value 13 points.

The ANOVA analysis (Appendix 4:2) show that two variables, group and design, played a statistically significant role.

As far as group was concerned, it appears that pupils in the Pretoria English schools were the most knowledgeable about transmission of HIV/AIDS via proved means while those in the Cape Afrikaans schools were the least knowledgeable. A significant but relatively small improvement in knowledge occurred in the posttest in the control schools. However, a significant and larger improvement occurred in the posttest in the experimental schools (DUNCAN analysis, Table 3).

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TABLE 3: KNOWLEDGE OF TRANSMISSION OF HIV/AIDS VIA PROVED MEANS

DUNCAN GROUPING	MEAN	N	SEX
A	9.6924*	1801	Female
A	9.6050	1628	Male
DUNCAN GROUPING	**MEAN**	**N**	**GROUP**
A	10.5294	833	Pretoria English
B	10.0919	1023	Pretoria Afrikaans
C	9.0350	629	Laudium English
D	8.8083	944	Cape Afrikaans
DUNCAN GROUPING	**MEAN**	**N**	**DESIGN**
A	10.0793	1059	Postexperimental
B	9.8253	664	Postcontrol
C	9.5979	679	Precontrol
D	9.1315	1027	Pre-experimental

Minimum value: 0

Maximum value: 13

* A mean percentage for a particular category is calculated from the mean score, taking into account the minimum and maximum values.

b. Transmission via casual contact (Factor 2)

The items used in this field appear in Appendix 3.3. The technique of optimal scaling was used to calculate a total score. The minimum value that respondents could obtain was 0 and the maximum value 8 points.

According to the ANOVA analysis (Appendix 4:3) the variables, group and design played a statistically significant role.

Apparently the order of the mean scores for the various groups corresponded with those for knowledge of transmission via proved means: pupils in the Pretoria English schools scored the highest while those in the Cape Afrikaans schools scored the lowest. As regards the design, the pre- and posttests for the control schools did not differ significantly but in the case of the experimental schools the mean score in the posttest was significantly higher than in the pre-test (DUNCAN analysis, Table 4).

TABLE 4: KNOWLEDGE OF TRANSMISSION OF HIV/AIDS VIA CASUAL CONTACT

DUNCAN GROUPING	MEAN	N	SEX
A	5.1782	1801	Female
A	5.1364	1628	Male
DUNCAN GROUPING	**MEAN**	**N**	**GROUP**
A	6.2593	833	Pretoria English
B	5.5415	1023	Pretoria Afrikaans
C	4.6232	629	Laudium English
D	4.1282	944	Cape Afrikaans
DUNCAN GROUPING	**MEAN**	**N**	**DESIGN**
A	6.1341	1059	Postexperimental
B	4.7922	664	Postcontrol
B	4.7717	679	Precontrol
B	4.6446	1027	Pre-experimental

Minimum value: 0

Maximum value: 8

4.1.3 Knowledge of prevention of HIV/AIDS (Factor 1, subgroup 3)

A total of 11 questions were asked in order to determine the level of pupils' knowledge of the prevention of HIV/AIDS. One point was awarded for

every correct answer and no points for incorrect answers and a total score was calculated. A minimum of 0 and a maximum of 11 points could be obtained (Appendix 3:4).

The ANOVA analysis indicated that all three the variables sex, group and design played a statistically significant role (Appendix 4:4).

TABLE 5: KNOWLEDGE OF PREVENTION OF HIV/AIDS

DUNCAN GROUPING	MEAN	N	SEX
A	6.7439	1628	Male
B	6.3404	1801	Female
DUNCAN GROUPING	**MEAN**	**N**	**GROUP**
A	7.5642	833	Pretoria English
B	6.8739	1023	Pretoria Afrikaans
C	5.7997	629	Laudium English
C	5.7383	944	Cape Afrikaans
DUNCAN GROUPING	**MEAN**	**N**	**DESIGN**
A	6.9481	1059	Postexperimental
A	6.7846	664	Postcontrol
B	6.5066	679	Precontrol
C	5.9562	1027	Pre-experimental

Minimum value: 0

Maximum value: 11

* Although the DUNCAN analysis (Table 5) indicated that the boys were more knowledgeable about the prevention of HIV/AIDS than the girls, this difference was relatively small.
* Pupils in the Pretoria English schools had the highest mean score while those in the Laudium English and Cape Afrikaans schools had the lowest.

* Although an improvement in knowledge was observed with respect to both the control and experimental schools in the posttest, the improvement in knowledge for the latter was the greatest.

4.1.4 Knowledge of protection against STDs (Factor 8)

The pupils' knowledge was investigated by means of three questions (Appendix 3.5). One point was awarded for each correct answer and no points for an incorrect response. A total score was calculated and a minimum of 0 and a maximum of 3 points could be obtained.

According to the ANOVA analysis (Appendix 4:5) the variables group and design played a statistically significant role.

TABLE 6: KNOWLEDGE OF PROTECTION AGAINST STDS

DUNCAN GROUPING	MEAN	N	SEX
A	1.5081	1801	Female
A	1.4582	1628	Male
DUNCAN GROUPING	**MEAN**	**N**	**GROUP**
A	1.8091	833	Pretoria English
B	1.5572	1023	Pretoria Afrikaans
B	1.4913	629	Laudium English
C	1.1144	944	Cape Afrikaans
DUNCAN GROUPING	**MEAN**	**N**	**DESIGN**
A	1.5666	1059	Postexperimental
A	1.5527	664	Postcontrol
A	1.4875	679	Precontrol
B	1.3535	1027	Pre-experimental

Minimum value: 0

Maximum value: 3

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The DUNCAN analysis (Table 6) once again indicated that the Pretoria English schools had the highest mean score and the Cape Afrikaans schools the lowest. A statistically significant improvement in knowledge of protection against STD was observed between the pretests and posttests in the experimental schools while no such improvement was observed in the control schools.

4.2 PERCEPTIONS OF AIDS RELATED ASPECTS

4.2.1 Perceptions of HIV/AIDS susceptibility (Factor 1, Subgroup 4)

Six questions were asked in order to determine the pupils' perceptions of HIV susceptibility. (Appendix 3.6). A total score was calculated by using the technique of optimal scaling. The minimum value that respondents could obtain was 0 and the maximum value 8 points.

The ANOVA analysis showed that the variables sex, group and design, played a statistically significant role (Appendix 4:6).

The DUNCAN analysis (Table 7), did not reveal a significant difference between the sexes. The pupils in the Pretoria English schools had the most realistic perception (the highest mean score) of people's susceptibility to HIV/AIDS whereas pupils in the Cape Afrikaans schools had the least realistic perception. As regards the design, the only statistically significant increase in mean score occurred in the posttest of the experimental schools.

TABLE 7: PERCEPTIONS OF HIV/AIDS SUSCEPTIBILITY

DUNCAN GROUPING	MEAN	N	SEX
A	4.3409	1628	Male
A	4.2682	1801	Female
DUNCAN GROUPING	**MEAN**	**N**	**GROUP**
A	4.8043	833	Pretoria English
B	4.3343	1023	Pretoria Afrikaans
C	4.1113	629	Laudium English
D	3.9534	944	Cape Afrikaans
DUNCAN GROUPING	**MEAN**	**N**	**DESIGN**
A	4.4750	1059	Postexperimental
B A	4.3554	664	Postcontrol
B	4.3300	679	Precontrol
C	4.0730	1027	Pre-experimental

Minimum value: 0

Maximum value: 8

4.2.2 Perceptions of blood tests regarding HIV/AIDS (Factor 1, subgroup 5)

The pupils' perceptions of the use of blood tests in HIV/AIDS diagnosis were investigated by means of two questions (Appendix 3:7) The technique of optimal scaling was used to calculate a total score. The minimum value that respondents could obtain was 0 and the maximum value 2 points.

All three the variables sex, group and design, played a statistically significant role (ANOVA analysis; Appendix 4:7).

The DUNCAN analysis (Table 8) showed that the boys had a higher mean score than the girls, which indicated a better understanding of the use and

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confidentiality of blood tests for HIV/AIDS diagnosis. Pupils in the Pretoria English and Afrikaans schools had the highest mean scores and those in the Laudium English schools, the lowest. In both the experimental and control schools a statistically significant improvement occurred in the posttests. However, the improvement was the greatest in the experimental schools.

TABLE 8: PERCEPTIONS OF BLOOD TESTS FOR HIV/AIDS

DUNCAN GROUPING	MEAN	N	SEX
A	1.5958	1628	Male
B	1.4981	1801	Female
DUNCAN GROUPING	**MEAN**	**N**	**GROUP**
A	1.6255	833	Pretoria English
A	1.5699	1023	Pretoria Afrikaans
B	1.5117	944	Cape Afrikaans
C	1.4452	629	Laudium English
DUNCAN GROUPING	**MEAN**	**N**	**DESIGN**
A	1.6440	1059	Postexperimental
B	1.5843	664	Postcontrol
C	1.4875	679	Precontrol
C	1.4538	1027	Pre-experimental

Minimum value: 0

Maximum value: 2

4.2.3 Perceptions of condom use (Factor 3)

Six questions were asked in order to determine the respondents' views on condom use as well as their beliefs regarding the views of significant others on condom use (Appendix 3:8). The technique of optimal scaling was used

to calculate a total score. The minimum value that respondents could obtain was 0 and the maximum value 8 points.

The ANOVA analysis indicated that all three of the variables, sex, group and design played a statistically significant role (Appendix 4:8).

TABLE 9: PERCEPTIONS OF CONDOM USE

DUNCAN GROUPING	MEAN	N	SEX
A	6.8950	1628	Male
B	6.4270	1801	Female
DUNCAN GROUPING	**MEAN**	**N**	**GROUP**
A	7.2161	833	Pretoria English
B	6.7727	629	Laudium English
C	6.3708	944	Cape Afrikaans
C	6.3685	1023	Pretoria Afrikaans
DUNCAN GROUPING	**MEAN**	**N**	**DESIGN**
A	6.7877	664	Postcontrol
A	6.7573	1059	Postexperimental
A	6.6863	679	Precontrol
B	6.4236	1027	Pre-experimental

Minimum value: 0

Maximum value: 8

According to the DUNCAN analysis (Table 9) the boys had a more positive perception (a higher mean score) of the acceptablility of condom use than the girls. The pupils in the Pretoria English schools had the most positive perception of the acceptability of condom use while those in the Afrikaans schools in the Cape and Pretoria had the most negative views. As regards the variable, design, there was a statistically significant difference between

the pretests and posttests at the experimental schools. The mean score was higher during the posttesting, indicating a more positive perception of condom acceptance.

4.2.4 Awareness of availability of free condoms

An open-ended question was asked to determine whether the pupils knew where one could obtain condoms free of charge. Fewer respondents in the posttest than in the pretest indicated that they did not know where to obtain condoms free of charge - especially in the experimental schools (a decrease of 26 % against a decrease of 10 % in the control schools). An increase occurred in the percentages of pupils in the post-tests of both experimental (19 %) and control schools (17 %) who indicated that condoms could be obtained free of charge from health personnel (Table 10). (No statistical analysis was performed for this item.)

TABLE 10: AWARENESS OF SOURCES OF FREE CONDOMS*

	Experimental schools		Control schools	
	Pretest	Posttest	Pretest	Posttest
	N = 1052	N = 1076	N = 687	N = 680
	%	%	%	%
Do not know	53.8	27.5	56.4	46.0
Health personnel	26.8	45.6	22.4	39.1
Parks/cinemas/toilets	6.8	2.8	6.0	1.6
Friends	2.4	2.1	1.3	3.8
Army	5.0	0.3	4.2	0.1
Chemist	3.9	7.5	9.2	7.8
Parents/grandparents	0.4	0.4	0.1	0.3
School	-	0.6	-	-
Supermarket	0.1	2.0	-	0.7

* The respondents could give more than one answer and consequently the percentages do not add up to 100 %.

4.2.5 Perceptions of social distance regarding HIV-infected people (Factor 4)

Nine questions were asked to determine the pupils' perceptions of social distance towards HIV-infected people (Appendix 3:9). The technique of optimal scaling was used to calculate a total score. A minimum of 0 and a maximum of 15 points could be obtained. The higher the score, the greater the feelings of social distance towards HIV-infected people.

The variable, group, played a statistically significant role (ANOVA analysis - Appendix 4:9).

TABLE 11: PERCEPTIONS OF SOCIAL DISTANCE REGARDING HIV-INFECTED PEOPLE

DUNCAN GROUPING	MEAN	N	SEX
A	7.9232	1628	Male
A	7.7879	1801	Female
DUNCAN GROUPING	**MEAN**	**N**	**GROUP**
A	8.0997	1023	Pretoria Afrikaans
A	8.0275	944	Cape Afrikaans
B	7.6677	629	Laudium English
B	7.4886	833	Pretoria English
DUNCAN GROUPING	**MEAN**	**N**	**DESIGN**
A	7.9729	664	Postcontrol
A	7.9219	679	Precontrol
A	7.8569	1027	Pre-experimental
A	7.7271	1059	Postexperimental

Minimum value: 0

Maximum value: 15

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According to the DUNCAN analysis (Table 11) the pupils in the Afrikaans schools (Pretoria and the Cape) obtained higher mean scores than those in the English schools (Pretoria and Laudium). This indicates that the Afrikaans-speaking pupils in general were more inclined to feelings of social distance towards HIV-infected people.

4.2.6 Perceptions of peer group pressure regarding sexual behaviour (Factor 5)

Six questions were asked in order to determine the influence of their peer groups on the pupils' perceptions regarding sexual behaviour (Appendix 3:10). Optimal scaling was used to calculate a total score. A minimum of 0 and a maximum of 18 points could be obtained. The higher the score, the greater the perception of peer group pressure to engage in sexual behaviour.

According to the ANOVA analysis (Appendix 4:10) all three variables, sex, group and design, played a statistically significant role.

The DUNCAN analysis (Table 12) shows the following:

* The boys had a higher mean score than the girls which indicated that they had a stronger perception of peer pressure to engage in sexual behaviour.
* The pupils in the Cape Afrikaans schools had the highest mean score (highest perceived peer pressure) while those in the Pretoria Afrikaans schools had the lowest mean score.
* The mean scores of the control and the experimental schools were higher in their posttests than in their respective pretests, indicating a higher perception of peer pressure.

TABLE 12: PERCEPTIONS OF PEER GROUP PRESSURE REGARDING SEXUAL BEHAVIOUR

DUNCAN GROUPING	MEAN	N	SEX
A	8.4023	1628	Male
B	5.5825	1801	Female
DUNCAN GROUPING	**MEAN**	**N**	**GROUP**
A	7.7638	944	Cape Afrikaans
B	7.3649	833	Pretoria English
C	6.7472	629	Laudium English
D	5.8895	1023	Pretoria Afrikaans
DUNCAN GROUPING	**MEAN**	**N**	**DESIGN**
A	7.4428	664	Postcontrol
B	7.0177	679	Precontrol
B	6.8886	1059	Postexperimental
C	6.5540	1027	Pre-experimental

Minimum value: 0

Maximum value: 18

4.2.7 Perceptions of seriousness and outcome of HIV/AIDS (Factor 7)

Twelve questions were asked to determine the respondents' views regarding the seriousness and outcome of HIV/AIDS (Appendix 3:11). The technique of optimal scaling was used to calculate a total score. The mimimum score respondents could obtain was 0 and the maximum 34.

The variables, group and design, played a statistically significant role (ANOVA analysis - Appendix 4:11).

According to the DUNCAN analysis (Table 13) the highest mean score was obtained by the pupils in the Pretoria English schools which indicate that they had the most realistic view regarding the seriousness and outcome of the disease. Pupils of the Cape Afrikaans schools had the least realistic view. As regards the variable, design, higher mean scores were obtained in the posttest in both the control and the experimental schools. However the increase was somewhat larger in the latter.

TABLE 13: PERCEPTIONS OF SERIOUSNESS AND OUTCOME OF HIV/AIDS

DUNCAN GROUPING	MEAN	N	SEX
A	30.9922	1801	Female
A	30.8673	1628	Male
DUNCAN GROUPING	**MEAN**	**N**	**GROUP**
A	31.9760	833	Pretoria English
B	31.6325	1023	Pretoria Afrikaans
C	30.3052	629	Laudium English
D	29.6727	944	Cape Afrikaans
DUNCAN GROUPING	**MEAN**	**N**	**DESIGN**
A	31.3626	1059	Postexperimental
A	31.2651	664	Postcontrol
B	30.8851	679	Precontrol
C	30.3067	1027	Pre-experimental

Minimum value: 0

Maximum value: 34

4.2.8 Attitude towards multiple sexual partners

(Factor 1, individual item)

Only one question was asked to determine the respondents' attitudes towards having more than one sexual partner. Two points were awarded if the respondents indicated that having more than one sexual partner was a bad thing and one point if the answer was that it was a good thing (Appendix 3:12). A minimum of one point and a maximum of 2 points could be obtained.

According to the ANOVA analysis (Appendix 4:12) the variables, sex group and design, played a statistically significant role.

TABLE 14: ACCEPTABILITY OF MULTIPLE SEXUAL PARTNERS

DUNCAN GROUPING	MEAN	N	SEX
A	1.9756	1801	Female
B	1.8778	1628	Male
DUNCAN GROUPING	**MEAN**	**N**	**GROUP**
A	1.9541	1023	Pretoria Afrikaans
B	1.9256	833	Pretoria English
B	1.9189	629	Laudium English
B	1.9121	944	Cape Afrikaans
DUNCAN GROUPING	**MEAN**	**N**	**DESIGN**
A	1.9490	1059	Postexperimental
A	1.9416	1027	Preexperimental
A	1.9352	679	Precontrol
B	1.8720	664	Postcontrol

Minimum: 1

Maximum: 2

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The DUNCAN analysis (Table 14) shows that the girls had a higher mean score than the boys which indicates that the girls were more inclined to say that having multiple sexual partners was bad. Pupils in the Pretoria Afrikaans schools were more inclined than those in the other schools to say that having more than one sexual partner was bad. The DUNCAN analysis furthermore shows that the mean score was higher in the pretesting than in the posttesting of the control schools. This indicates that pupils in the pretest were more inclined to say that it was a bad thing to have more than one sexual partner.

4.3 COMMUNICATION REGARDING AIDS-RELATED FACTORS

4.3.1 AIDS-related communication (Factor 6)

To investigate communication regarding AIDS-related factors ten questions were asked (Appendix 3:13). For each question an answer in the affirmative was awarded one point. A total score was calculated and a minimum of 0 and a maximum of 10 points could be obtained.

The variables, sex group and design, both played a statistically significant role (ANOVA analysis - Appendix 4:13).

The DUNCAN analysis (Table 15) did not reveal a significant difference between the sexes. According to the DUNCAN analysis (Table 15) the pupils in the Cape Afrikaans schools had the highest mean score indicating that they were more inclined to discuss HIV/AIDS with other people and to seek information regarding AIDS. The pupils in the Pretoria Afrikaans schools were the least inclined to do so. Although both the control and experimental schools had higher mean scores in the posttest the increase in the latter schools was somewhat larger indicating that they were more inclined to discuss AIDS and seek information since taking part in the programme.

TABLE 15: COMMUNICATION REGARDING AIDS

DUNCAN GROUPING	MEAN	N	SEX
A	3.2054	1801	Female
A	3.1462	1628	Male
DUNCAN GROUPING	**MEAN**	**N**	**GROUP**
A	3.6186	944	Cape Afrikaans
B	3.3650	833	Pretoria English
C	3.0604	629	Laudium English
D	2.6892	1023	Pretoria Afrikaans
DUNCAN GROUPING	**MEAN**	**N**	**DESIGN**
A	3.4873	1059	Postexperimental
B	3.2771	664	Postcontrol
C	3.0192	679	Precontrol
C	2.8978	1027	Pre-experimental

Minimum value: 0

Maximum value: 10

4.3.2 Perceptions of information on sexual matters (Factor 1, individual item)

One question was asked to determine whether pupils' thought that teenagers had enough information regarding sexual matters (Appendix 3:14). Optimal scaling indicated a minimum score of 0 and a maximum score of 3.

The variables, sex, group and design, all played a statistically significant role (ANOVA analysis - Appendix 4:14).

Pupils in the Pretoria English and Afrikaans schools were more inclined than those in the Laudium English and the Cape Afrikaans schools to say that teenagers have enough information about sexual matters. Pupils in the post-test of the experimental schools had a higher mean score than those in the pre-test. This indicates that respondents in the post-test were more inclined to think teenagers had enough information on sexual matters.

TABLE 16: INFORMATION ON SEXUAL MATTERS

DUNCAN GROUPING	MEAN	N	SEX
A	2.1173	1628	Male
B	1.9195	1801	Female
DUNCAN GROUPING	**MEAN**	**N**	**GROUP**
A	2.0792	1023	Pretoria Afrikaans
A	2.0684	833	Pretoria English
B	1.9650	629	Laudium English
B	1.9259	944	Cape Afrikaans
DUNCAN GROUPING	**MEAN**	**N**	**DESIGN**
A	2.0869	679	Precontrol
A	2.0527	664	Postcontrol
A	2.0217	1059	Postexperimental
B	1.9309	1027	Pre-experimental

Minimum: 0

Maximum: 3

4.3.3 Sources of information on HIV/AIDS

The pupils were asked to indicate which sources provided them with information on HIV/AIDS. Table 17 shows that both magazines and television were mentioned by more than 90 % of pupils as sources of information regarding

AIDS. In the experimental schools the percentage of pupils who mentioned the school as source increased by 11 % in the post-test. No statistical analysis was performed on this item.

TABLE 17: SOURCES OF INFORMATION ON HIV/AIDS: AFFIRMATIVE ANSWERS

	Experimental schools				Control schools			
	Pretest		Posttest		Pretest		Posttest	
	N *	%	N	%	N	%	N	%
Magazines	1042	94.7	1071	96.8	682	96.0	677	95.9
Television	1034	92.6	1066	92.8	677	95.3	672	95.3
School	1039	84.4	1070	95.8	682	86.5	676	89.0
Brochures/pamphlets	1030	81.5	1069	85.9	678	83.4	674	85.6
Newspapers	1035	75.2	1067	80.9	674	83.5	674	84.0
Video/films	1031	69.5	1064	75.9	677	78.0	675	78.5
Radio	1037	65.3	1064	74.5	676	66.2	675	70.1

* N indicates the number of pupils who answered each question and not only those who answered in the affirmative. The percentages were calculated from the number of respondents who answered each question.

4.3.4 Communication preferences for information on HIV/AIDS

The respondents were asked to indicate from which sources they would prefer to receive information on HIV/AIDS. Generally it seems that the majority of pupils preferred to receive information from health personnel. More than 70 % of the pupils indicated that they preferred teachers and parents respectively as sources of information. The peer group was considered by between 58 % (experimental schools, pretest) and 72% (control school, posttest) as a preferred source of information on AIDS (Table 18).

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TABLE 18: COMMUNICATION PREFERENCES FOR INFORMATION OF HIV/AIDS: AFFIRMATIVE ANSWERS

	Experimental schools				Control schools			
	Pretest		Postest		Pretest		Posttest	
	N *	%	N	%	N	%	N	%
Health adviser	1029	83.2	1056	80.1	680	82.8	665	75.5
Doctor/Nurse/Clinic	1016	82.6	1045	78.4	661	80.8	660	75.1
Teachers	1018	77.7	1044	82.6	665	78.1	662	76.8
Parents	1018	73.4	1054	72.7	669	73.8	662	70.4
Friends	1024	57.9	1059	61.8	671	67.3	664	71.5
Chemist	1032	53.4	1057	54.9	676	53.1	666	48.8
Brothers/Sisters	1016	41.3	1053	45.0	668	46.2	664	50.6
Minister/Church	1028	27.0	1058	28.2	667	27.6	666	25.8
Grandparents	1014	24.7	1043	24.6	667	23.8	663	22.0

* N indicates the number of pupils who answered each question and not only those who answered in the affirmative. The percentages were calculated from the number of respondents who answered each question.

4.3.5 Preferred method of presentation of AIDS information

The pupils were asked how they would like to receive information on HIV/AIDS. On inspection of the data no clear picture of how the pupils would prefer to receive information emerged (Table 19).

TABLE 19: PREFERRED METHOD OF PRESENTATION OF AIDS INFORMATION: AFFIRMATIVE ANSWERS

	Experimental schools				Control schools			
	Pretest		Posttest		Pretest		Posttest	
	N *	%	N	%	N	%	N	%
Large groups	1005	60.5	1046	59.8	654	60.2	661	62.8
Small groups	981	46.7	1017	52.3	652	50.2	649	49.2
Person to person	995	56.2	1024	56.4	653	53.1	647	49.8

* N indicates the number of pupils who answered each question and not only those who answered in the affirmative. The percentages were calculated from the number of pupils who answered each question.

4.3.6 Awareness of AIDS information sources

An open-ended question was asked to determine if the pupils knew where to obtain information on AIDS. It is clear that more respondents were aware of where they could obtain information on AIDS in the posttest than in the pre-test. It is interesting to note that the percentages of pupils who mentioned health personnel increased by more then 40 % in the post-tests of both the experimental and control schools. There was also an increase of between 5 % (control schools) and 15 % (experimental schools) of pupils who said that they could obtain information at school. However there was a sizable decrease in the proportion of pupils in the post-test who said that they could obtain information from friends - about 19 % in both the experimental and control schools). (Table 20). (No statistical analysis was performed on this item.)

TABLE 20: AWARENESS OF AIDS INFORMATION SOURCES *

	Experimental Schools		Control schools	
	Pretest	Posttest	Pretest	Posttest
	N = 1052	N = 1076	N = 687	N = 680
	%	%	%	%
Do not know	32.3	12.1	30.9	21.9
Health personnel	16.3	57.2	11.6	59.4
Garages	9.6	0.2	10.9	-
Friends	19.3	0.6	20.1	1.0
Shopping centres	8.6	0.1	8.4	-
Libraries	4.5	5.4	5.8	6.0
Magazines/Books	3.6	3.3	4.4	6.2
Schools	6.3	21.3	5.7	11.3
Parents	2.3	4.4	2.3	6.3
Mass media	1.0	4.3	0.9	3.5

* The respondents could give more than one answer and consequently the percentages do not add up to 100 %.

4.4 AIDS RELATED BEHAVIOURAL INTENTIONS AND BEHAVIOUR

4.4.1 Behavioural intention to undergo a blood test should AIDS be suspected (Factor 1, individual item)

Only one question was asked to determine the pupils' intention of having a blood test should AIDS be suspected (Appendix 3:15) Optimal scaling indicated a minimum score of 0 and a maximum score of 3.

According to the ANOVA analysis (Appendix 4:15) only the variable, group, played a statistically significant role.

The DUNCAN analysis (Table 21) indicate that the pupils in the Pretoria Afrikaans schools had the highest mean score and those in the Cape Afrikaans schools the lowest. This shows that pupils in the Pretoria Afrikaans schools were the most inclined to indicate that they would go for a blood test if HIV/AIDS were suspected.

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TABLE 21: INTENTION TO UNDERGO A BLOOD TEST

DUNCAN GROUPING	MEAN	N	SEX
A	2.7135	1801	Female
A	2.6665	1628	Male

DUNCAN GROUPING	MEAN	N	GROUP
A	2.7781	1023	Pretoria Afrikaans
B A	2.7503	833	Pretoria English
B	2.6900	629	Laudium English
C	2.5456	944	Cape Afrikaans

DUNCAN GROUPING	MEAN	N	DESIGN*
A	2.7320	679	Precontrol
B A	2.7262	1059	Postexperimental
B A	2.6702	664	Postontrol
B	2.6417	1027	Pre-experimental

Minimum value 0

Maximum value 3

* Although the DUNCAN analysis shows a statistically significant difference in the case of the variable design, it is not discussed since it was not shown to be significant in the ANOVA analysis.

4.4.2 Behaviour intention for protection against HIV infection

Only one open question was asked to determine the respondents' intention to protect themselves from HIV infection. One point was awarded for each valid method of protection against HIV infection mentioned. A total score was calculated for each respondent and a minimum of 0 and a maximum of 7 points could be obtained. The following methods of protection received one point each: abstinence from sexual contact, keeping to one sexual partner, using a

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condom, both partners undergoing blood tests before entering a sexual relationship, refraining from using intravenous drugs, self-masturbation and mutual masturbation.

A multiple regression analysis was performed in which all the dependent variables used in the previous analyses were included as independent variables in order to determine which of these were predictors of the abovementioned behavioural intention. However, prior to this analysis a DUNCAN analysis was performed to determine which of the variables sex, group and design played a significant role in this regard. According to this analysis these variables did not show any significant association with the dependent variable.

The results of the multiple regression analysis (Table 22) indicate that five of the variables showed a statistically significant association with the dependent variable. A higher behavioural intention score occurred among respondents

- with a higher score for knowledge of transmission via proved means;
- with a higher score for knowledge of prevention of HIV;
- who thought that it was a bad thing to have multiple sexual partners;
- with a higher score for knowledge of transmission via casual contact;
- who had a more positive view towards the acceptance of condom use;
- with a higher score for knowledge regarding protection against STD.

TABLE 22: RESULTS OF THE REGRESSION ANALYSIS: INTENTION TO TAKE PRECAUTIONS AGAINST HIV INFECTION

$R^2 = 0.05$*

Independant variables	Co-efficient	Probability of exceedance
Knowledge of transmission: proved means	0.0087	0.0474*
Knowledge of prevention of HIV/AIDS	0.0224	0.0001*
Knowledge of biological changes: puberty	0.0049	0.8596
Perceptions of HIV/AIDS susceptibility	-0.0047	0.5134
Perceptions of blood tests: HIV/AIDS	-0.0007	0.9628
Perceptions of sexual information	-0.0106	0.2732
Intention: blood tests if HIV suspected	0.0047	0.6316
Attitudes towards multiple sexual partners	0.0838	0.0054*
Knowledge of transmission via casual contact	0.0110	0.0108*
Perceptions of condom use	0.0149	0.0031*
Social distance: HIV-infected people	0.0016	0.5677
Peer group pressure: sexual behaviour	0.0007	0.7690
Communication regarding AIDS	-0.0038	0.3502
Seriousness and outcome of HIV/AIDS	0.0039	0.1053
Knowledge of protection against STD	0.0283	0.0025*
Design: Pre-control	0.0016	0.9210
Post-control	0.0200	0.2368
Pre-experimental	-0.0023	0.8712
Post-experimental	-0.0193	0.2285
Sex: Boys	-0.0012	0.8953
Girls	0.0012	0.8953
Group: Pretoria Afrikaans	-0.0196	0.1865
Pretoria English	0.0304	0.0513
Cape Afrikaans	0.0148	0.3570
Laudium English	-0.0256	0.1921

Minimum value: 0 Maximum value: 7

* Only 5 % of the variation was accounted for by this regression model - 95 % of the variation was accounted for by other variables not included in this model.

4.4.3 Perceptions of the meaning of the concept "sexually active"

One question was asked in the posttest to find out what the pupils understood by the concept "sexually active". The data show that most of the pupils understood that it referred to sexual intercourse - 82 % in the experimental schools and 83 % in the control schools (Table not reported).

4.5 GENERAL OVERVIEW OF CHANGES IN THE DIFFERENT SCHOOLS

In Figures 2 to 5 (Appendix 5) the differences between posttest and pretest mean scores were plotted for the various fields set out in Appendix 3. Each figure shows the data for the experimental school(s) with the corresponding control school for a particular group of schools.

In all fields, except two these scores were calculated by subtracting the pretest mean score for each school from the corresponding posttest mean score. In the other two fields (9 and 10) a higher mean score indicated a more negative inclination. To bring it in accordance with the other fields in which a higher mean score can be seen as more positive, the differences in the mean scores of these fields were calculated by subtracting the posttest mean score from the pretest mean score. The differences in the mean scores are shown in Figures 2 to 5 and will not be discussed.

All the figures can be interpreted in the following way:

Example: Figure 2:
Field 2: Knowledge of transmission of HIV/AIDS via proved means.

Experimental school 1 shows an increase of 2.2 points
Experimental school 2 shows an increase of 0.36 points
The control school shows an increase of 0.67.

This indicates that in experimental school 1 the knowledge about transmission of HIV/AIDS via proved means has increased the most while it increased least in experimental school 2.

The various figures clearly indicate that the experimental schools generally showed improvements during the posttest.

4.6 EVALUATION OF THE PROGRAMME BY THE PUPILS

4.6.1 Quantitative evaluation

A few questions were asked in the posttest of the experimental schools to determine the respondents' views of the programme: The majority of the pupils thought the following:

- high school pupils ought to undergo similar programmes. 96.4 % (N=954)*
- the programme was informative. 90.9 % (N=954)
- they have learned enough about the various topics. 76.4 % (N=955)

(Table not reported.)

The respondents mentioned that they would like to receive more information on the following topics:

<u>AIDS</u>

* Epidemiology of AIDS
* General aspects regarding AIDS
* AIDS transmission modes, including oral and anal sex
* Safer sex practices concerning AIDS
* Signs and symptoms of AIDS
* Attitudes towards persons with AIDS

<u>Sex-related issues</u>

* Sexually transmitted diseases
* Human reproduction/menstruation
* Teenagers and sex
* Teenage pregnancies
* Abortion
* Contraceptives and their availability

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* N = the number of respondents who answered the question

* Sexual practices such as masturbation, sex without penetration, etc.

Other issues

* Rape
* Child abuse
* Drug use
* Heterosexual relationships
* Parenting
* Ways to change unacceptable behaviour
* Cancer, hepatitis, viruses

The pupils offered various suggestions to improve the programme. In terms of its content and the presentation. With regard to the content of the programme, some respondents indicated that the programme could be improved by providing more information on the following topics:

AIDS:

* General aspects of AIDS
* AIDS preventive behaviour
* How to help people who have AIDS

Sex-related topics

* To provide all sexual information for informed decisions
* Contraceptives and their availability
* Pregnancy

Other aspects

* More information regarding relationships
* Mixed marriages

With regard to the presentation of the programme the pupils felt that the programme could be improved by

* spending more time on the programme;
* educating all pupils starting from a much younger age;
* educating parents on AIDS and sex-related issues;
* inviting experts on AIDS to the school as guest speakers;
* inviting a person with AIDS to the school to discuss his/her experiences;
* selecting the most appropriate teacher to teach about sexual issues;

* improving co-operation with pupils and asking for their views on issues that would be addressed in the programme.

Some suggestions for improving the programme were made in terms of education techniques. Most of the pupils apparently felt that more use should be made of audiovisual materials, such as videos and slides as well as printed material in the education setting. The pupils mentioned that the use of theatre and involvement in projects or assignments could improve the programme. The use of the small group as a learning unit for sex-related issues and the use of person-to-person communication as a means of improving the programme were suggested. The pupils indicated that peer group counsellors could be used to improve the programme.

A few respondents mentioned that the programme could be improved through performing medical examinations and blood tests for HIV infection as well as through law enforcement prohibiting children under the age of 18 years old from having sex.

4.6.2 Qualitative evaluation

As previously mentioned, some focus group interviews regarding the programme were conducted with pupils in the experimental schools. The findings of the interviews will be discussed in terms of the issues addressed in the interviews - issues such as the respondents' general impressions of the programme, important AIDS related issues, matters on which more information is needed, presentation of the programme and some general remarks.

ø General impressions of the programme

The respondents felt that the programme was necessary and interesting. All of them indicated that they have found it informative.

ø Previous AIDS education

Only a few of the respondents indicated that they had previously received some information on AIDS. However, they believed that it was inadequate and very superficial.

ø Issues of importance regarding AIDS

Many of the respondents stated that they would like to see what a person with AIDS looked like. They thought that more visual material should be made available for them to see what someone with AIDS looked like. Some respondents considered preventive behaviour very important and felt that they should know about all sexual behaviour which might place them at risk of contracting AIDS.

ø Matters on which more information is needed

Some respondents said that they would like to receive more information on a regular weekly basis. Most of the respondents wished to receive more information about the signs and symptoms of AIDS and STDs. Some mentioned that they would like to know what would happen if STDs were not treated. Other topics on which they also wanted more information about sexual decision making, heterosexual relationships, teenage pregnancy and how to behave towards a person with AIDS. A few mentioned that more information on parenting should be provided. The respondents said that their parents were very positive about AIDS education and they felt that parents should also be educated about AIDS and teenage sexuality.

Most of the respondents believed that all the aspects of importance had been addressed in the programme. Some felt that although some of the information was common knowledge some of the prevailing myths concerning sexual issues had been mystified. A few of the pupils thought that teachers did not spend enough time on AIDS-related topics but dwelt too long on subjects considered to be common knowledge, namely parental and heterosexual relationships.

Most of the pupils believed that the information they had received regarding general AIDS issues was superficial and that more detailed discussions were necessary especially with regard to the various modes of transmission. Most of the respondents indicated that there were many teenagers who engaged in high-risk AIDS-related behaviour such as sexual practices, drug use and alcohol abuse (one of the girls mentioned that boys often suggested anal or oral sex to girls because it held no danger of pregnancy). The pupils said that some teenagers experienced strong peer pressure to engage in high-risk behaviour. They felt that teenagers often did not have enough information regarding high-risk behaviour and therefore did not really know how to protect themselves. Apparently the respondents generally believed that teachers should realize that teenagers found themselves in a modern world and were exposed to a great deal of information about sex, drugs and alcohol, in the media with special reference to TV and magazines. The pupils were therefore more aware of various sexual practices and drug abuse than their parents or teachers had been at their age. Some respondents indicated that they would have liked the following issues to be addressed in more detail:

* Transmission of HIV infection between lesbians and homosexuals
* The nature of oral sex and the risk of HIV infection

A few of the respondents said that they knew of many teenagers who had engaged in unprotected sexual intercourse, because they did not plan it and were therefore unprepared. Others thought that teenagers did not know where to obtain contraceptives or were too ashamed to ask for them and would rather have unprotected sexual encounters. Most of the respondents believed that teenagers should be informed about contraceptives and their availability. They felt that if some teenagers then became sexually active they would at least know how to protect themselves against AIDS. Some felt that they would also be able to advise their friends, who were sexually active without any protection, on the use of contraceptives and especially condoms.

The view was also expressed that issues such as child molesting, sexual abuse and how to deal with them should be addressed. They wanted to know how to deal with them should they or their friends be involved in such problems. Some education on parenting was suggested. Some respondents indicated that

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teenagers should be allowed to identify issues with which they grappled so that these issues could be discussed in the classroom.

ø Knowledge of sexual issues

Most of the pupils thought that knowledge of sexual issues would not make teenagers more promiscuous; rather knowledge would enable them to make informed and responsible decisions and choices. They felt that they should be made aware of the implications of sexual behaviour, and the use of alcohol and drugs. Only one pupil felt that teenagers might want to experiment if they had the information - the others in the group did not agree with this view.

ø Presentation of the programme

Most of the pupils felt strongly that professionally qualified people from outside the school environment should present such programmes. The issue of confidentiality was raised and they agreed that they would be very reluctant to discuss their personal problems with a teacher who might not treat such information as confidential. Only a few respondents felt that they could discuss confidential matters with teachers. Some of the pupils felt that not all of the teachers respondible for sex and/or AIDS preventive education were suitable and thought that teachers should be selected and properly trained for the task so that they would not be embarrassed while discussing sex-related issues.

All the pupils felt that sex education was not in the least contentious or embarrassing, it was instead a necessity and they expected teachers to behave accordingly. Some mentioned that if teachers showed embarrrassment while dealing with sex-related education (as some did), they would find it difficult to discuss it openly. The pupils also felt that they would be able to discuss sex-related issues openly as long this was done in a situation of trust. Some felt that teachers should present sensitive information factually and they should always be honest.

In one school where peer counsellors were involved in the programme, the pupils mentioned that they found it easier to talk to their peers about sexual matters, relationships and AIDS. They felt that the peer counsellors had a better understanding of their problems than adults.

ø Teaching strategies

It seemed that all the respondents favoured interactive learning strategies. All of the respondents interviewed believed that small group discussions were very useful, because these discussions were thoroughly enjoyable since everyone could contribute and express his/her views. A few mentioned that the large group (more than one class) which was often used as a learning unit was not always effective since everybody could not participate and this led to some pupils' losing interest.

Not all the pupils agreed about whether these small groups should consist of both sexes or whether the groups should consist of boys or girls only. Some felt that the groups should be mixed while others felt that the groups should be separate, but that conclusions reached in the separate groups should be discussed in a mixed group. They thought that this would contribute to a better understanding of the opposite sex. They would thus become more aware of how boys and girls felt about certain issues.

A few respondents mentioned that teachers should convey factual information in a lecture with the aid of visual material but that enough time should be allocated for questions and discussions.

Most of the respondents indicated that they liked the idea of discussing case studies because they often read the "agony columns" in magazines and often found the answers to questions given, useful in their own cases. The suggestion was made that pupils should write their own or bring case studies of particular interest to them to class and place them in a container for discussion later on in class. In this way some issues of concern to them would be addressed confidentially. Some mentioned that confidential questions were handled in a similar way and felt that it was a very good way of submitting sensitive issues for discussion.

The respondents indicated that they found **role playing** very instructive and would have liked to spend more time on it. Some pupils felt that more time should have been spent on practising various answers to friends who tried to exert pressure on them to do things they did not want to do, for instance to have sex, to consume alcohol or to use drugs. They felt that role playing was the only way they could practise giving these answers. They indicated that although role playing might initially be embarrassing, it gave them the opportunity to consider another person's point of view, and to develop self-assertiveness.

All of the respondents felt that **visual material** should be used more often. Videos on AIDS were only used in a few schools. The pupils at schools in which videos or other visual material on AIDS were not used during the programme, said that it would have contributed to a better understanding of AIDS. Most of the pupils felt that a special effort should be made to use videos at school. Some pupils felt that the videos should not be animations, but should depict real people with whom they could identify. The pupils mentioned that videos could be used to convey scientific facts on AIDS, drug use or alcohol abuse. They could also be a medium for plays dealing with peer groups pressure, relationships, etc.

Some respondents mentioned that **guest speakers** such as persons with AIDS would have helped them understand the feelings of PWAS better. (It was said that one teacher tried to arrange for a guest speaker, but the speaker was unable to come). Most of the respondents would like more guest speakers to visit the school to talk about AIDS-related issues.

The pupils who had been involved in projects felt that they had learnt a great deal by going through magazines to find their own information and by making their own visual material. Some pupils mentioned that they had had an AIDS exhibition at school where other pupils had the opportunity of viewing their projects. A few of the respondents mentioned that some of the students had shown very informative and interesting projects with photos of the various symptoms of AIDS. They felt that visual material could make the topic of AIDS more real.

ø General remarks

Most of the pupils thought that the programme should be presented to all other teenagers and some felt that sex and AIDS preventive education should even be initiated in the lower grades. However a few felt that Std. 7 was the right standard to start with discussions on sexual matters.

All the pupils believed that teachers should not tell teenagers what was right or wrong nor what they should and should not do. They felt that teenagers should be allowed to make their own decisions with the professional guidance of teachers, parents or friends. However the pupils mentioned that parents and teachers alike should spell out the implications, consequences and responsibilities with regard to certain actions, so that adolescents would be able to take their own informed decisions. Some of the pupils thought that some teenagers might want to experiment with high-risks behaviour, simply because they were forbidden to do so.

4.7 EVALUATION OF THE PROGRAMME BY THE EDUCATORS

4.7.1 Qualitative evaluation

A few individual interviews were conducted with some of the educators who had been responsible for the implementation of the programme. The educators also evaluated each module qualitatively. The evaluation will be discussed in terms of the various modules of the programme.

Although the educators were generally satisfied with the topics addressed in Modules 1 to 7 as well as the way in which they were addressed, some felt that more emphasis should be placed upon an introduction module to the AIDS preventive education and life skills training programme, in which the seriousness of the disease would be explained as well as the importance of education as the only viable preventive strategy. Other shortcomings were also identified, for instance it was felt that during the presentation of Module 1, the sense of responsibility should go hand in hand with physical and emotional development during adolescence, should be specifically inculcated. Some educators and a representative of the TED indicated that human reprod-

uction and especially sexual intercourse should be discussed only within the context of marriage and morality.

A few of the educators suggested that since Modules 5, 6 and 7 were closely related, these modules could easily be incorporated into one module which would simplify presentation. One educator mentioned that peer group relationships (Module 4) were presented after Modules 5, 6 and 7 (heterosexual relationships and related aspects such as love and sexuality) because it was felt that peer pressure often manifested in heterosexual relationships.

One respondent felt that **Module 8** on decision making should not primarily focus on sexual decision-making but should also address making decisions on the use of drugs and alcohol because of the link with HIV infection.

Most of the respondents mentioned that the pupils' reactions to the information presented in **Module 9** on STD were unexpected. They indicated that the pupils were very keen to learn more about STD and that they were very surprised at pupils' general ignorance about STD. The educators felt that more background information should be provided to them on STD because of the detailed information the pupils required.

Although most of the educators did not experience any problems with **Module 10** which addressed HIV/AIDS, a few felt that the only AIDS preventive behaviour that should be addressed should be total abstinence from sex until marriage. There was some disagreement regarding the use of condoms as an AIDS preventive strategy. Apart from the fact that condoms might not be absolutely safe against HIV infection - often because of incorrect use, - a few of the educators said that teenagers might interpret messages on condom use wrongly and might think that the educators accepted teenage sexual activity. Some thought that condom use should be discussed only in terms of marriage and that because of this discussion, some sexually active teenagers might realize that they could use condoms to protect themselves against pregnancy or HIV infection.

With regard to masturbation, some educators expressed uncertainty about and discomfort with the topic. A few felt that it should be discussed only if

adolescents inquired about it but others felt that it should be dealt with factually and that adolescents should be made aware that masturbation was an accepted and safe practice in terms of HIV infection.

The educators also felt that various high-risk sexual practices that could cause AIDS infection such as cunnilingus and fellatio, should not be discussed at all in the programme because they felt sure that adolescents were completely ignorant of such practices. They feared that too much information on sexual issues might lead to promiscuity or experimentation. However, it was mentioned that homosexuality and anal sex should be discussed because young boys were often the victims of sexual abuse. Some of the educators felt that adolescents should be made fully aware of all high-risk AIDS behaviour so that they could protect themselves against HIV infection. They also felt that greater knowledge would be unlikely to promote promiscuity but would rather help adolescents abstain from unneccessary experimentation.

As regards tolerance towards HIV-infected people, an issue addressed in the programme, all the educators apparently felt that the learning activities could create a better understanding of the feelings of the HIV-infected person. They expressed concern about the general prejudice towards HIV-infected people that was expressed by pupils and teachers alike in their own schools as well as in the community. Most of the educators felt that in the light of the rapid increase of AIDS, pupils should be made aware of the great likelihood of sharing facilities with other HIV-infected pupils. It was also mentioned that this reality would neccessitate humane feelings towards the HIV-infected person.

The educators expressed a need for better illustrated printed matter on HIV/AIDS to fulfil their need for visual material. Although the educators mentioned that they would have liked to make better use of the available videos on AIDS and related matters, all of them stressed that the limited time scheduled for them to complete the programme did not allow them to explore the subject of AIDS fully. Furthermore most of the educators felt that the full potential of the programme could not be utilized nor fully investigated under the rushed circumstances in which it had to be completed. They

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believed however, that an AIDS preventive programme was an absolutely neccessity and that all efforts should be made to protect the youth from contracting HIV/AIDS.

It should be noted that some of the learning activities in Modules 8, 9 and 10 were adapted by the TED for the educators in the Afrikaans and English experimental Schools of the TED in Pretoria, within the context of a Christian philosophy, and are reported in Appendix 7.

5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 SUMMARY OF FINDINGS

5.1.1 Knowledge, perceptions, behavioural intentions and communication regarding AIDS

a. The findings in terms of the statistically significant differences which occurred can be summarized as follows:

Sex differences

The following associations between the independent variable, sex, and the dependent variables were found:

Boys had a higher mean score than girls (and were therefore more knowledgeable) on the following subjects:
- Biological changes during puberty
- Prevention of AIDS/HIV

Boys also had a
- better understanding of the use and confidentiality of blood tests;
- more positive perception of the acceptability of condom use;
- stronger perception of peer pressure regarding sexual behaviour.

Boys were also more inclined to say that teenagers had enough information on sexual matters.

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Girls were more inclined than boys to say that having more than one sexual partner was bad.

Group differences

Certain statistically signicant differences occurred between the groups: Pretoria English schools, Pretoria Afrikaans schools, Cape Afrikaans schools and Laudium English schools. The most important findings can be summarized as follows:

The respondents in the Laudium English schools had the highest mean score (most knowledgeable) and those in the Pretoria English schools the lowest, regarding

- knowledge of biological changes during puberty.

The pupils in the Pretoria English schools had the highest mean score (most knowledgeable) and those in the Cape Afrikaans schools the lowest on the following topics:

- Knowledge of the transmission of AIDS via proved means
- Knowledge of the transmission of AIDS via casual contact
- Knowledge of the prevention of HIV/AIDS
- Knowledge of the protection against STDs

The pupils in the Pretoria English schools also had the highest mean scores in other fields, indicating

- a more realistic perception of people's susceptibility to AIDS;
- a better understanding of the use and confidentiality of blood tests (did not differ from the Pretoria Afrikaans schools);
- a more positive perception of the acceptibilty of condom use;
- a more realistic perception of the seriousness and the outcome of HIV/AIDS.

The respondents in the Pretoria and Cape Afrikaans schools tended to have greater feelings of social distance toward HIV-infected people than those in the Pretoria and Laudium English schools.

The respondents in the Pretoria Afrikaans schools were more inclined than the rest to say that having multiple sexual partners is bad.

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The pupils in the Cape Afrikaans schools had the highest perceived peer group pressure (the highest mean score) while those in the Pretoria Afrikaans schools had the lowest.

The respondents in the Cape Afrikaans schools were the most inclined to discuss AIDS with other people and to seek information about AIDS, while those in the Pretoria Afrikaans schools were least inclined to do so.

Pupils in the Pretoria Afrikaans schools were the most inclined to say that they would undergo a blood test if HIV/AIDS was suspected, while those in the Cape Afrikaans schools were least inclined to say so.

Pupils in the Pretoria Afrikaans and English schools were more inclined to say that teenagers had enough information on sexual matters than those in the Cape Afrikaans and the Laudium English schools.

Design differences

The most important differences between the pretest and posttests for the experimental and control schools respectively can be summarized as follows:

No differences between pretest and posttest scores were observed concerning the pupils' knowledge of biological changes during puberty.

There was a signicant increase in the mean score of the experimental schools, indicating an increase in knowledge on the following topics:
- The transmission of HIV/AIDS via proved means
- The transmission of HIV/AIDS via casual means
- The prevention of HIV/AIDS
- Protective measures against STDs

There was a signicant increase in the mean score of the control schools, indicating an increase in knowledge on the following topics:
- The transmission of HIV/AIDS via proved means
- The prevention of HIV/AIDS

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These differences were somewhat smaller in the control schools than in the experimental schools.

As far as the experimental schools were concerned the pupils in the posttest, in contrast with those in the pretest, generally

- had a more realistic perception (a higher mean score) of peoples' susceptibility to HIV/AIDS;
- had a better understanding of the use and confidentiality of blood tests for HIV/AIDS diagnosis;
- had a more positive perception (higher mean score) of the acceptibility of using condoms;
- had a stronger perception of peer pressure (a higher mean score);
- had a more realistic view of the seriousness and the outcome of AIDS (higher mean score);
- were more inclined to discuss HIV/ AIDS with other people and to seek information about AIDS;
- were more inclined to think that teenagers had enough information on sexual matters.

Certain differences also occurred between the posttests and pretests in the control schools. In comparison with the respondents in the pretest, those in the posttest generally

- had a better understanding of the use and confidentiality of blood tests for HIV/AIDS diagnosis;
- had a stronger perception of peer pressure (a higher mean score);
- had a more realistic view of the seriousness and the outcome of AIDS (higher mean score);
- were more inclined to discuss HIV/ AIDS with other people and to seek information about AIDS.

On the whole these differences were smaller in the control schools than in the experimental schools.

As far as the control schools were concerned, the mean score was higher for the pretest than the posttest in regard to multiple sexual partners, indi-

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cating that the pupils in the pretest were more inclined to say that having multiple sexual partners was bad.

No differences occurred in either the experimental or the control schools as far as social distance regarding HIV-infected people was concerned.

Although the three variables, sex, group and design, did not play a significant role in the intention to protect oneself against HIV infection, it is interesting to note that certain positive correlations with the above-mentioned intention were found. The aspects which correlated positively with intention are as follows:

- Knowledge of transmission via proved means
- Knowledge of transmission via casual contact
- Knowledge of the prevention of HIV
- Knowledge regarding protection against STDs
- A negative attitude towards having multiple sexual partners
- A positive view of the acceptability of condom use

b. Communication

Questions on sources of information, preferences for certain communication sources and awareness of sources of information on AIDS, revealed some interesting trends.

Television and magazines appeared to be the main sources of HIV/AIDS information (mentioned by more than 90 % of the respondents). During the posttest in the experimental schools, the school emerged as an important source of AIDS information (an increase from 84 % to 96 %).

Communicator preferences were mainly health personnel, teachers, parents and friends, in that order.

During the posttest the pupils were more aware of the sources where they could find information on AIDS. The percentages of pupils who mentioned health personnel increased by more than 40 % in both the experimental and control schools. Friends as source were mentioned by 19 % fewer pupils dur-

ing the posttest while the school as a source was mentioned by between 6 % (control schools) and 15 % (experimental schools) more pupils during the posttest.

c. Availability of condoms

During the posttest fewer respondents than those in the pretest said that they did not know where to obtain free condoms, while there was an increase in the percentage of pupils who said that they could obtain them from health personnel (an increase of 19 % in the experimental schools and 17 % in the control schools).

5.2 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are based on the qualitative as well as the quantitative studies. According to the findings the experimental schools showed a general improvement in the posttest on the AIDS-related knowledge topics as well as more positive perceptions of condom use, more realistic perceptions regarding susceptibility to, the seriousness of, and the outcome of HIV/AIDS. They experienced less feelings of social distance towards HIV-infected people (not statistically significant) and were more inclined to discuss HIV/AIDS information with other people and to seek information themselves.

Improvements in the control posttest occurred in mainly two fields of knowledge. In the posttest the pupils also revealed a more realistic view of the seriousness and outcome of HIV/AID and were more inclined to discuss HIV/AIDS with other people and to seek information about HIV/AIDS. These improvements were generally smaller than those found in the experimental schools. There was also an increased perception of peer pressure to engage in sexual activity.

It is clear that the improvements in the posttest at the experimental schools were due to the programme. The improvement in knowledge at the control schools can possibly be explained by the effect of the survey. The pupils' exposure to the questionnaire created an awareness of HIV/AIDS which

was reflected in increased discussions and interest in information in the media. Although a questionnaire can be considered as an important means of creating an awareness of HIV/AIDS, it may cause uncertainty and it is therefore important that it should be followed up with sound information from reliable sources.

It is interesting to note that in general the pupils in the Transvaal schools (especially the English schools) were more knowledgeable about HIV/AIDS than the pupils in the Cape schools. This may be attributed to the fact that an emergency AIDS awareness campaign had previously been presented in most of the Transvaal schools. The pupils in the Cape schools also seemed to be more vulnerable to peer pressure to engage in sexual activity than pupils in the other schools.

Further conclusions and recommendations will be made in terms of the content and the presentation of the programme.

5.2.1 Content of the programme

Recommendations regarding the content of the programme will be discussed firstly in terms of the various survey fields and related aspects that were investigated by the quantitative and qualitative study and secondly with regard to the improvement of the modules.

In accordance with the findings of the pupils' knowledge about the biological changes during puberty, a topic which was addressed in Module 1, it is clear that the respondents knew less about their own bodies than was expected of pupils their age (mean percentage of 50 %). This might have serious implications for their understanding of sexual activity and its possible consequences, such as teenage pregnancy and HIV infection. It is of vital importance that adolescents should be knowledgeable about the changes that take place in their own bodies during puberty, allowing them to be physically intimate but with serious consequences. It is interesting to note however that about 66 % of the pupils mentioned that teenagers had enough information on sexual matters. This indicates that although they believed they had enough information on sexual matters, the information might not be

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accurate. On the other hand some respondents in the experimental schools indicated that more information on human reproduction was necessary and that they would like to receive more information about teenage pregnancy. One of the girls in a focus group interview expressed the wish that the school should arrange visits to homes for teenage mothers so that they could learn the consequences of teenage pregnancies. More attention should be paid in the course of the programme to the basic facts of human reproduction because this was a prerequisite for understanding the consequences of teenage sexuality.

The respondents' perceptions of **peer pressure** (factors related to peer pressure were addressed in Modules 4, 5, 6, 7 and 8) to engage in sexual behaviour which is considered to be high-risk behaviour for contracting HIV/AIDS, was not alarmingly strong. However boys perceived more peer pressure to engage in sexual behaviour than girls. The pupils in the Cape schools also tended to indicate stronger peer pressure to engage in sexual behaviour. Since the influence of the peer group on adolescent high-risk behaviour such as engaging in sexual activity and using drugs and alcohol should not be underestimated, enough time should be allocated in any AIDS preventive programme to make adolescents aware of the influence of the peer group on their behaviour and to equip them with skills to resist effectively the peer pressure to engage in high risk behaviour for contracting AIDS. A positive self-concept, assertiveness and a clarified value system is necessary for the effective handling of unacceptable peer pressure. A positve self-concept can be developed through the self-discovery of one's own abilities, attributes and limitations. Parents and educators play a crucial role in assisting and guiding adolescents in the process of self-discovery and in clarifying their value systems. Assertiveness skills can be acquired through various interactive teaching techniques, such as role play and small group discussions in which - because of the dynamic nature of interaction of the small group - the adolescents have the opportunity to develop various skills such as communication, negotiation and decision-making skills. It is therefore important that any AIDS preventive programme address the issue of peer pressure effectively.

Although **interpersonal communication** (Modules 3, 4 and 5) with regard to HIV/AIDS apparently increased after the completion of the programme it can still not be considered adequate. Open communication with especially one's parents, family members and teachers regarding AIDS-related factors is very important because of the influence these "significant other people" have on the adolescents' behaviour through socialization of accepted community norms. It is clear that more should be done to ensure improved communication. Parents could possibly be trained in more specific skills concerning the handling of adolescents' behaviour and moods. Parents are often expected to be equipped with these sensitve parenting skills without having ever been prepared for the task. Although teachers are well trained within their domain they should also be made more aware of the principles of effective communication. As regards the adolescents' responsiblity for effective communication, more time should be spent to equip them with communication skills and to encourage them to create open communication channels by establishing a relationship of trust and mutual care. Adolescents should be made aware of their own responsibility in acquiring scientific information about important issues and that they should be critical of information received from lay sources. This might help to alleviate the myths and stigmatization that surround HIV/AIDS.

Since adolescents generally seem to consider magazines followed by television as their **main sources of information** on AIDS, care should be taken that the information disseminated in these sources is correct. The powerful role of the television in health communication should not be underestimated. Television programmes on HIV/AIDS can contribute to factual knowledge and interviews with PWAS can provide some modelling on how to behave towards an HIV-infected person. Observing these interviews can also lead to humanizing the facts about HIV/AIDS which can help induce feelings of tolerance towards HIV-infected people. However, the use of the television in educating people about AIDS should be done carefully so that existing stigmatized perceptions about HIV-infected people are not reinforced. Local interviews on television are often conducted with obviously homosexual HIV-infected people, thus strenghtening the perception that HIV/AIDS is mainly a "gay disease". This is not the case in South Africa where it is mainly a heterosexual disease. Consequently viewers might gladly but erroneously believe that they

are not susceptible to HIV/AIDS. It is important to note that television programmes can provide the viewers with modelling and messages about the risks of casual sexual encounters and the sexual partners' responsibility for considering and discussing the use of some means of protection against HIV/AIDS in these situations.

The subtle messages conveyed by the mass media are often much stronger than anticipated and this therefore necessitates careful planning of a programme or an article on HIV/AIDS.

It is clear that more detailed information about STDs should be provided in the presentation of Module 9. The pupils and educators were generally ignorant of the various STDs and the pupils were very keen to obtain more information on the diseases for example the signs and symptoms, treatment and possible consequences should these STDs go untreated. With regard to knowledge about protection against STDs, about 50% of the respondents knew that condoms could protect one from contracting an STD. This cannot be considered an adequate knowledge regarding protection against contracting an STD. Because of the association between STDs and AIDS, more attention should be paid to providing full information on the ways and means of protection against STDs. The interviews with the educators clearly revealed that some educators were not sure whether the TED principles permitted them to discuss the use of condoms in terms of the protection it provides against STDs and AIDS, because they had been trained to discuss the use of condoms primarily as contraceptives within the marriage context.

As regards the knowledge of AIDS transmission via proved modes as well as via casual contact, the programme clearly helped to increase the pupils' knowledge on these topics (Module 10). Although the mean percentage obtained in the posttest was about 77 % for both topics respectively it is expected that pupils should have complete knowledge on this topic. Because of the many myths surrounding the transmission of AIDS, more time and effort should be put into an AIDS preventive programme to ensure complete and accurate knowledge of transmission modes.

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As regards the pupils' **perceptions of the seriousness and outcome of AIDS** (Module 10) the mean pretest percentage of 89 % in this survey clearly indicates that even before the commencement of the programme the pupils were well informed of the seriousness and outcome of the disease. After the programme the mean percentage obtained in this survey increased to 92 %. The initial high score can probably be attributed to the awareness of AIDS created by the mass media, for instance numerous news reports on TV and in newspapers as well as the various television programmes and magazine articles on AIDS could have contributed to the high level of perceptions concerning the seriousness and outcome of AIDS.

Although the pupils were generally aware that **blood tests** could be performed to detect the HIV virus and also that there were places where one could obtain blood tests confidentially, the programme increased this awareness. However, the general public and pupils alike should be made more aware of the available AIDS services.

In the experimental schools the pupils' knowledge on the **prevention of HIV/AIDS** (Module 10) also increased from a mean percentage of 54 % to 63 % after the completion of the programme. Once again this cannot be considered adequate knowledge about the prevention of HIV/AIDS. Because of this finding and the focus group findings, more comprehensive information on preventing infection is needed, so that the pupils can be more knowledgeable about methods of protection. It can be assumed that this important topic was not addressed adequately during the presentation of the programme. Because of the fear and anxiety surrounding AIDS, it is important for people to know that they are able to protect themselves from the lethal HIV virus. The mere fact that they know how to protect themselves will prevent their denying the seriousness of the disease or adopting a fatalistic approach to the contraction of HIV/AIDS. This topic might not have been addressed with the necessary care, possibly because of either a lack of time or uncertainty about these sensitive and controversial topics. The idea that more information regarding various sexual practices and contraceptives would encourage promiscuity still seems to be widely held by adults and educators. However, it should be borne in mind that no research has indicated that more information on sexual issues contributes to promiscuity but rather that teenagers

with more information are less keen to engage in sexual behaviour (Fisher, 1986).

Although before the programme commenced the pupils seemed to be generally negative about the **acceptability of more than one sexual partner**, this view was reinforced by the programme in terms of high risk AIDS-related behaviour. In terms of HIV protection this view should be reinforced because if every sexually active person keeps to only one partner the spread of HIV infection will be minimized. Unfortunately monogamy is not propagated by the mass media - one need only think of the popular "soap operas" on TV where multiple sexual partners and unproteced sexual intercourse are generally accepted as a way of life. The tragedy of broken homes in which the respective parents, setting a poor example to their children, often drift from one sexual relationship to another is also a reality that should be kept in mind when addressing in an AIDS preventive programme the issue of multiple sexual partners regarding the risk of HIV infection.

In accordance with the findings, the programme apparently led to an increase in the pupils' perceptions of the **use of condoms as acceptable in a sexual relationship** (mean score rose from 80 % to 85 %). In view of the aim of AIDS prevention this should be considered a very positive factor and one that should also be enhanced through the media. When adolescents are aware that "significant other people" such as film stars and sport heroes make responsible decisions regarding HIV protection and consider the use of condoms in sexual relationships important, this positive view can be enhanced. However, adolescents should be made aware that condoms offer only some protection against HIV infection. In the qualitative study the pupils stressed that they should be informed about the availability of condoms and where to obtain them free of charge. Most of the pupils also stated that their knowledge of the availability of condoms would not encourage teenagers who were not sexually active to become sexually active but instead would encourage those who were sexually active to use protection. Less than 50 % of the respondents in the posttest (experimental schools) indicated that condoms could be obtained free of charge from clinics, hospitals and doctors. This clearly indicates that adolescents do not know that condoms can be obtained free of charge from health personnel. According to the personal interviews

with the educators, some were once again sceptical of the possibility that this knowledge might increase sexual activity among adolescents. However, a few educators mentioned that since they knew of teenage sexuality in the school they felt responsible for at least informing the pupils about the availability of condoms and, not as one educator implied, they did not believe that sexually active teenagers would realize by themselves that they should use some form of protection. This is also reflected in the view of the pupils in the qualitative study, namely that many teenagers engage in unprotected sexual intercourse because it is often unplanned, because they are ashamed to ask for condoms or because they do not know where to obtain condoms.

The pupils did not score satisfactorily in the posttests regarding their **perceptions of HIV/AIDS susceptibility** (Module 10). Although the programme led to a somewhat more realistic view of HIV/AIDS susceptibility (mean score from 51 % to 56 %) this cannot be considered adequate. In view of the stigmatization of AIDS it is important that pupils be made aware that anyone is susceptible to HIV infection. More attention should be given to this aspect in any AIDS prevention programme, because it might counteract the stigmatization of AIDS as a disease that only certain groups of people can contract.

The programme apparently contributed only to a slight decrease in **feelings of social distance towards HIV-infected people** (not statistically significant). Although the facilitation of tolerance towards HIV-infected people was considered one of the main objectives of the programme, it was definitely not satisfactorily attained. In view of the previous finding that pupils still do not realize everyone's susceptibility to HIV and the perceptions of social distance that still prevail, these issues need to be seriously considered. This aspect should be addressed with more care and commitment in the programme. In view of the discussions that took place during the educator training sessions it is interesting to note that pupils in the Pretoria Afrikaans schools displayed greater feelings of social distance than those in the Laudium English or Pretoria English schools. The importance of the educators' own feelings about and prejudice towards HIV-infected people should be thoroughly addressed and worked through before

they commence teaching a programme of this sensitive nature. It is furthermore important to realize that pupils should not receive contradictory messages, such as "behave with empathy towards an HIV-infected person but condemn his/her behaviour", because this would only confuse them and will not help them understand the PWAS feelings and sufferings. It should also be noted that perhaps not enough time was spent on these issues since in most instances they were the last issues addressed in the programme. Another important fact that should be borne in mind is that attitudes are essentially resistant to change and a change cannot take place within a few weeks. More time and effort directed at the beliefs underlying these attitudes is needed in order to bring about effective attitude change.

As regards the **behavioural intention to undergo a blood test** should AIDS be suspected, the pupils generally felt that they would consider undergoing a blood test. However, as regards the **behavioural intention to protect themselves from HIV/AIDS**, apparently the pupils still need more information on protective measures against HIV infection. This view was expressed by pupils in both the qualitative and the quantitative study.

Generally the educators and the pupils appeared satisfied with the various topics treated in the modules. However, the pupils, educators and researchers made certain recommendations that should receive attention. In accordance with the findings, an introduction module on the programme was included setting out the rationale of the programme. Some of the suggested modules were also incorporated into other related modules which simplified the presentation of the programme.

The pupils generally felt that the topics in the modules should be treated in more detail. This view can possibly be attributed to the general lack of time in which the programme was to be conducted, as reported by all educators. Although the pupils mentioned various topics - not relevant to an AIDS education programme - on which they would like to receive more information, these topics should not be ignored and note should be taken of their information needs (see paragraph 4.6.1).

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In accordance with the evaluation of the pupils, the educators and the researchers suggested the following basic adaptations to the modules:

(Note should be taken that the previous suggested learning activities for each module should be accordingly adapted in order to meet the aims of each module.)

MODULE 1

Introduction

Aims

* To create an understanding of the disease AIDS - what does AIDS stand for?
* To create an understanding of the epidemiology of AIDS (national and international) in terms of
  - the geographical distribution of AIDS cases in South Africa
  - the forecasts
* To create an awareness of the economic implications of AIDS
* To create an awareness of the seriousness of AIDS in terms of:
  - the incurability and fatal nature of the disease
* To create an awareness of the importance of education as the only viable strategy against contracting AIDS
* To facilitate an understanding that all people are responsible for their own health and should therefore protect themselves against HIV infection.
* To give an overview of the content of the programme as well as the rationale for addressing the various topics in an AIDS programme

MODULE 2

Puberty and adolescence - a time of change. An introduction

Aims

Adolescence - a time of emotional change:

* To facilitate an understanding of the concept "adolescence"

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* To facilitate an understanding of the development of adolescents in terms of intellectual, social, emotional and moral factors
* To facilitate an understanding of adolescent behaviour

Reproduction

* To ensure accurate knowledge of anatomical and physiological changes:
  - Primary sexual characteristics
    - Menstruation
    - Ejaculation
  - Secondary sexual characteristics
    - Body shape
    - Sweat glands
    - Hair growth
* To ensure accurate knowledge of human reproduction
    -Pregnancy and teenage pregnancy

MODULE 3

Relationships: an introduction

Aims

* To explore the concept "relationship"
* To facilitate an understanding of the qualities necessary in developing relationships
* To create an awareness of factors which contribute to positive relationships
* To facilitate an understanding of the factors which have a negative influence on relationships

MODULE 4

Family relationships

Aims

* To encourage effective communication within the family
* To encourage open communication with parents regarding AIDS-related issues, such as sexuality, drug use and alcohol use
* To encourage adolescents to inquire how their parents feel about these issues regarding their children
* To establish the needs of the adolescent in the family
* To inquire about areas of conflict between parents and teenagers, such as friends, dating, smoking, the use of alcohol, sex issues and drug use
* To create an awareness of the difficulties of parenthood

MODULE 5

Dating (heterosexual relationships)

Aims

* To create an understanding of both boys' and girls' emotional reactions when dating
* To inquire about the difficulties boys and girls experience when involved in a relationship
* To explore sex role stereotypes and their implications for dating
* To explore appropriate behaviour in a heterosexual relationship
* To create an understanding of the concept "love"
* To create an understanding of the difference between "sex" and "love"

MODULE 6

Peer group relationships

Aims

* To create un understanding of the influence of the peer group on adolescents' behaviour. Reference should be made to high-risk AIDS-related behaviour, such as sex, drug and alcohol use
* To create an awareness of peer pressure and ways of dealing with it

MODULE 7

Decision making

Aims

* To assist teenagers to learn more about themselves in order to develop a positive self-concept
* To assist teenagers to explore and choose their own values and beliefs
* To explore the reasons why some adolescents become sexually active, use drugs or abuse alcohol
* To create an awareness of the consequences of sexual intercourse, drug use and alcohol abuse in terms of teenage pregnancy, emotional pain, STDs and AIDS/HIV
* To create an awareness of responsible versus irresponsible behaviour
* To facilitate the development of the skills (self-assertivenss, self-empowerment) necessary to manage peer pressure effectively
* To assist teenagers to develop skills for making informed decisions and for implementing the decisions in terms of AIDS preventive behaviour

MODULE 8

Sexually transmitted diseases (STDs)

Aims

* To create an awareness of STDs
* To create an awareness of the link between STDs and AIDS

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MODULE 9

AIDS/HIV

Aims

* To create an awareness of what HIV and AIDS stand for
* To increase knowledge and understanding of the effect that the HIV virus has on the body
* To create an awareness of the prognosis of the disease
* To create an awareness of the signs and symptoms of AIDS
* To increase understanding of ways for testing for the AIDS virus
* To increase knowledge of transmission modes
* To raise awareness of high risk-behaviour versus high-risk groups
* To increase knowledge regarding the prevention of HIV/AIDS infection

MODULE 10

AIDS/HIV

Aims

* To develop an awareness of the AIDS/HIV-infected person's feelings
* To develop feelings of empathy towards AIDS sufferers

5.2.2 Presentation of the programme

The pupils who completed the programme indicated that the programme could be improved by allowing the school to invite experts on HIV/AIDS as guest speakers to talk to them on the subject. This view was generally shared by all the pupils. They indicated that their most preferred source of AIDS information was either a health adviser or other members of the health profession. Apparently they consider health personnel credible sources of information. According to the theories of persuasive communication (Baron & Byrne, 1991) a message received from an information source perceived as credible will be more persuasive than the same message from a source perceived to be less credible. Therefore in terms of the value of health messages regarding HIV/AIDS and particularly messages regarding preventive

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behaviour, it seems logical that more "experts" from the ranks of health personnel should address the pupils on HIV/AIDS. It is important to note that pupils in the qualitative as well as the quantitative studies referred to the importance of the appropriateness of the educator conducting programmes of such a nature. Although the educators were trained counsellors, this does not mean that the pupils considered them suited to conducting AIDS preventive programmes. As one child mentioned, "teachers should not attack our characters". More attention should be paid to the inservice training of teachers in conducting programmes of this nature. It is very important that educators should be confident about the topic of AIDS and be knowledgable about all the basic facts. However they should also be comfortable with the topic of sexuality, which is crucial for successfully conducting sex-related education of which AIDS education is an integral part (Quinn, Thomas & Smith, 1990). Although AIDS has compelled educators to confront their own feelings about sexual issues, the question remains whether they are ready to deal with it and how they will approach it.

Some of the teachers felt that they would have liked the programme to be placed within a particular religious/cultural context. Since the programme is intended to be used for a wide spectrum of religious/cultural groups it would not be feasible to restrict it in such a way. During training the teachers should be made aware of the benefits of a flexible programme which they can adapt to suit their circumstances. They might find it helpful if they were given ample opportunity to clarify their own value system during training. They should also be encouraged to learn more about other value systems prevalent in the school. Training could take place within groups of teachers belonging to different religious/cultural orientations in order to understand different values.

Educators responsible for the implementation of the programme could be given guidelines to assist colleagues who want to take part in "AIDS Day" presentations, for instance essays on AIDS in the language classes or discussions on the working of the immune system and the altered immune system of the HIV-infected person in Biology classes. Educators should be encouraged to organize various activities that could enhance AIDS awareness among pupils in the school and people in the communities, such as an AIDS day or fun

runs. All the teachers and pupils should be involved. Pupils' projects could also be exhibited for parents and community members to see.

In the qualitative study the pupils indicated that they enjoyed interactive learning activities and that they found them informative. Small group discussions were particularly mentioned because all the pupils could participate and every person's view was considered. As previously mentioned, small group discussions provide the opportunity for the pupils to develop insight into the topic of discussion but additionally provide them with the opportunity to develop communication skills, negotiation skills, the assertiveness needed to express an opinion, take responsibility for their own decisions/point of view, confidence, problem-solving skills, autonomy, etc. Although a lack of time is often used as an excuse not to employ small group work it is essential for pupils to engage in some small group activities in order to equip them with skills which will otherwise not be acquired.

Some disagreement about the gender of the pupils involved in small group discussions was noted. Most pupils felt that the groups should consist of both boys and girls but some pupils felt that the groups should consist of only boys or only girls. It can therefore be suggested that the pupils should decide for themselves if they want to have pupils of only one gender or both genders in their groups. However, it should be noted that this preference will probably change according to the topic under discussion which will determine to a great extent their particular gender preferences. It is interesting to note that the boys were generally more knowledgeable about HIV/AIDS than the girls. Attention should be given to ensuring adequate knowledge about HIV/AIDS in both genders. It should be noted that since the female body is more susceptible to HIV infection than the male body, girls cannot be neglected in AIDS education and should be made fully aware of the dangers of high-risk AIDS-related behaviour.

The large group can be utilized effectively when factual information is conveyed in a lecture with the aid of audiovisual material or a drawing board. The pupils frequently mentioned that the programme could be improved by using more visual materials, such as videos, slides and printed material. Pupils in the qualitative study mentioned that they wanted to see what the

AIDS virus looked like, what the HIV virus did to the body, what an HIV-infected person looked like, etc. The use of video or slides in the learning situation requires some sophistication in the school infrastructure, such as electricity and basic equipment, which is lacking in many learning situations. This problem can be partly overcome with well-illustrated booklets or brochures on AIDS. Although the pupils were issued with some printed material - the booklet "Teenagers and AIDS" and various other brochures distributed by the Department of National Health and Population Development - these were apparently not adequate for answering all their questions. The use of more scientific photographs in the booklets and brochures for, instance of the the virus and the signs of the disease, could help to answer some of their needs for visual information. A flipchart where visual images such as photographs are used to communicate a message on HIV/AIDS could be developed. This might be an answer to the problem of inadequate facilities in many learning situations. It is important however to note that interpersonal communication to reinforce the messages or clarify the information in the visual material cannot be eliminated and should be seen as integral to the use of visual material.

Furthermore the use of casette listening groups (adapted from the technique of radio listening groups - Hall & Dreyer, 1987) can also be a very useful technique in learning situations where there is no sophisticated equipment. A recording can for instance consist of various sessions in which an "expert" gives basic facts on HIV/AIDS according to specific topics, then a recorded discussion could follow between this "expert" and pupils. The pupils' questions regarding basic facts are answered by the "expert". After each session the educator in the learning situation involving this technique, could encourage the listeners (pupils) to discuss certain issues addressed in the recording. Through the discussions afterwards between the pupils and the educator, uncertainties could be clarified and basic facts reinforced. The recording could also consist of an interview conducted with an HIV-infected person. During this interview the HIV-infected person could share his/her feelings and experiences with the listeners. Using this technique, listeners could come into contact with an HIV-infected person and learn about the disease from this person's viewpoint. The importance of discussions after the recording is once again stressed. Listeners should be

given the opportunity to voice their own concerns and ask their own questions.

The use of experimental theatre (Appendix 8) as a powerful learning technique should not be underestimated especially in learning situations characterized by a lack of facilities.

Although most of the learning situations in which the programme was conducted had adequate facilities for the utilization of videos, slides and transparencies, the educators could not use all available material because of a lack of time.

In accordance with the findings it can be concluded that the programme was effective in meeting the aims it set out to meet, namely

- to increase knowledge regarding AIDS-related matters;
- to facilitate the appropriate attitudes underlying preventive health care and tolerance towards HIV-infected people;
- to provide some basic training in life skills, such as negotiation, interpersonal communication and decision making.

The establishment of attitude and behaviour patterns to prevent AIDS infection and to ecourage tolerance towards persons with AIDS (PWAS) can only be attained over a sustained period of time with the commitment of the whole community.

In conclusion it is important to note that a programme is in itself a dynamic process in which the different components play an interactive role - a programme as an entity constitutes more than the sum of its component parts. Caution should therefore be exercised when considering the "effective aspects" of a programme since their "effectiveness" might be based on the combination of the various factors within a programme and not on the aspects *per se*. The "effectiveness" of the aspects of a programme could also be attributable to the specific group/area concerned and might not be as successful in other areas.

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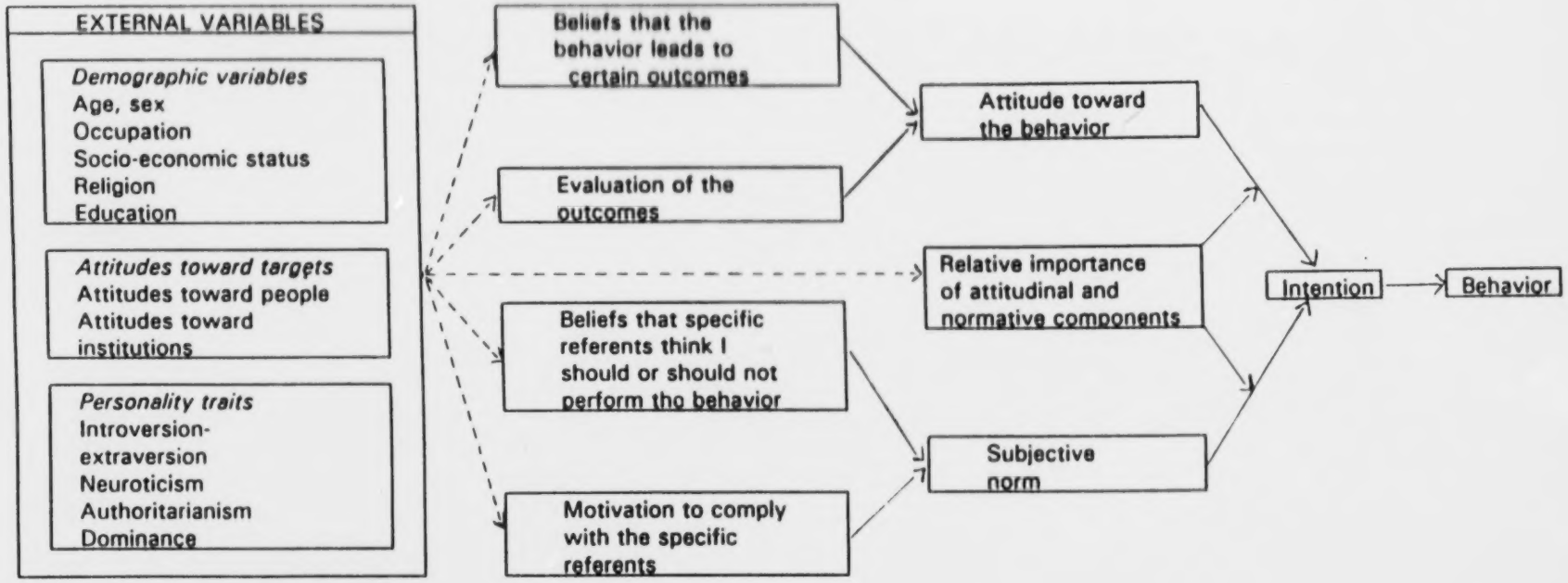
APPENDIX 1

FIGURE 1: THE THEORY OF REASONED ACTION (AJZEN & FISHBEIN, 1980)



----------→ Possible explanations for observed relations between external variables and behavior

——————→ Stable theoretical relations linking beliefs to behavior

APPENDIX 2: STATISTICAL TECHNIQUES

Optimal scaling

A short description to explain optimal scaling appears below.

Supposing a respondent answered Items 6-10 in Section III of the questionnaire as follows:

	Yes (Y)	No (N)	Do not know (D)
Item 6	X		
7		X	
8		X	
9	X		
10			X

The above information is now represented by a row of 6x3 dichotomous variables as follows:

Item 6	Item 7	Item 8	Item 9	Item 10
YND	YND	YND	YND	YND
100	010	010	100	001

From this representation it appears that each item is described by three dichotomous variables, namely one for the "Yes" category, one for the "No" category and one for the "Do not know" category. Each variable takes the value of 1 if the respondent chose that category and 0 if it was not chosen. The information obtained in this way is summed up in a 1730x16 contingency table in which 1730 represents the number of rows (i.e. scholars from Schools 1 to 10) and 16 the number of columns (i.e. the dichotomous variables). The row
100 010 010 100 001 is one of the 1730 rows.

This contingency table can be represented graphically by means of correspondence analysis (Greenacre, 1984) and in such a way that

there is maximum association between the row and column points. In optimal scaling the co-ordinates of the first factor (first axis) are used to digitize the categories of "Yes", "No" and "Do not know".

The first axis co-ordinates for items 6-10 are as follows:

Mean of "Yes" category	:	11,35
Mean of "Do not know" category	:	0,82
Mean of "No" category	:	-4,70

Since statistical analysis is invariant in respect of scale and locality transformations (i.e. adding a constant to each observation or multiplying each observation by a constant) it was decided to add the smallest scaled value in every case equal to nil. In the above case therefore the following values are obtained:

Yes	:	11,35 + 4,70 = 16,05
Do not know	:	0,82 + 4,70 = 5,52
No	:	-4,70 + 4,70 = 0,00

If each of the above values are divided by 5,52, the following are obtained:

Yes	:	16,05 ÷ 5,52 = 2,91
Do not know	:	5,52 ÷ 5,52 = 1
No	:	0 ÷ 5,52 = 0,00

Since the correlation between the total score of Items 6 to 10 is equal to the original scaled values 3 (instead of 2,91), 1 and 0 are equal to 0,97, it was decided to digitize the categories of Items 6-10 as follows:

"Yes"	:	3
"No"	:	0
"Do not know"	:	1

FACTOR ANALYSIS

There are often a large number of variables in a research investigation. The researcher may be interested in determining if there are subcollections of variables with the following characteristics:

(i) Where the variables within a subcollection, for example (V_1, V_3, V_7 and V_{11}, have a high mutual correlation.

(ii) Where the correlation between the variables in one subcollection and those in another subcollection is relatively low.

Factor analysis is a statistical technique that can be employed to determine these characteristics. The factor analysis model postulates that there are what are termed factors in such subcollections of variables. Supposing that there are originally seven variables and that there are two possible subvariables of these variables. The factor analysis model will be as follows:

$$V_1 = a_1 F_1 + a_2 F_2 + U_1$$

$$V_2 = b_1 F_1 + b_2 F_2 + U_2$$

$$V_3 = c_1 F_1 + c_2 F_3 + U_3$$

$V_4 = d_1 F_1 + d_2 F_4 + U_4$

$V_5 = e_1 F_1 + e_1 F_5 + U_5$

$V_6 = f_1 F_1 + f_2 F_6 + U_6$

$V_7 = g_1 F_1 + g_2 F_7 + U_7$

F_1 and F_2 are called the factors and the coefficients a_1, a_2, b_1, ... g_1, g_2, are called the factor loadings. The variables U_1, U_2, ... U_7 are called the error terms. Supposing the following numerical values are obtained:

$V_1 = 0.8 F_1 + 0.17 F_2$

$V_2 = 0.04 F_1 + 0.73 F_2$

$V_3 = -0.9 F_1 + 0.12 F_2$

$V_4 = 0.2 F_1 + 0.76 F_2$

$V_5 = 0.10 F_1 + 0.85 F_2$

$V_6 = 0.16 F_1 + 0.66 F_2$

$V_7 = 0.7 F_1 + 0.23 F_2$

The factor loadings are a measure of the correlation between each variable and the relevant factor. Usually loadings <0.25 are set as equal to 0 and the computer carries out the analysis for the abovementioned numerical values as follows:

"Reordered factor loadings"

	Factor 1	Factor 2
V_1	0.80	-
V_3	-0.90	-
V_7	0,70	-
V_2	-	0.73
V_4	-	0.76
V_5	-	0.85
V_6	-	0.66

The two subcollections of variables are therefore (V_1, V_3, V_7) and (V_2, V_4, V_5, V_6).

Researchers sometimes give descriptive names to the different subcollections. If V_1, V_3 and V_7 are related to economic matters and V_2, V_4, V_5 and V_6 to social ones, the researcher may decide to refer to F_1 as an economic and to F_2 as a social factor.

What is known as a factor rotation is utilized in factor analysis in order to ensure that the variables within a specific subcollection have the highest correlation possible, and the variables between subcollections the lowest correlation possible. A well-known rotation method is the Varimax method, which has also been used in the present investigation.

With this technique 8 factors were identified.

APPENDIX 3: SURVEY FIELDS

The fields surveyed are presented in the order in which they are discussed in the text

1. Knowledge about biological changes during puberty
   (Factor 1, subgroup 1)

Description of item	Factor loading
Which one of the following biological changes is essential before a girl can fall pregnant? a) Growth of pubic hair b) Menstruation c) Development of breasts	0,0000
Which one of the following biological changes is essential before a boy can father a child? a) Growth of pubic hair b) Deepening of voice c) Ejaculation	-0,1876
Minimum value: 0 Maximum value: 2	

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2. Knowledge about transmission of HIV/AIDS by proved means (Factor 1, subgroup 2)

Description of item	Factor loading
One cannot get AIDS HIV by having sex with someone who has AIDS/HIV.	0,2184
A pregnant woman can pass AIDS/HIV on to her unborn baby.	0,2885
One can get AIDS/HIV by receiving blood that was donated by a person who has AIDS/HIV.	0,1568
One can get AIDS/HIV by using the same injection needles that other persons have used when injecting yourself with drugs.	0,1861
A man can get AIDS/HIV by having sex with another man who has AIDS/HIV.	0,3442
AIDS/HIV is caused by a virus/germ.	0,2409
The body of a person with AIDS/HIV cannot defend itself against other diseases.	0,4547
AIDS/HIV cannot be spread when two uninfected people have sex.	0,2377
A woman cannot get AIDS/HIV by having sex with another woman who has AIDS/HIV	0,3109
AIDS/HIV cannot be transmitted by semen (sperms).	0,3928
AIDS/HIV can be transmitted by vaginal fluids.	0,4225
AIDS/HIV can only be transmitted by a person who is infected with AIDS/HIV.	0,2071
Is is true that someone who suffers from sexually transmitted disease is more likely to get AIDS/HIV?	0,1688
Minimum value: 0 Maximum value: 13	

3. Knowledge of HIV/AIDS transmission via casual contact (Factor 2)

Description of item	Factor loading
One can get AIDS/HIV when someone who has AIDS/HIV coughs, or sneezes on you.	0,6408
One can get AIDS/HIV by coming into contact with the perspiration of a person who has AIDS/HIV.	0,5831
One cannot get AIDS/HIV by swimming in the same swimming pool with someone who has AIDS/HIV.	0,5583
One can get AIDS/HIV by sharing food with someone who has AIDS/HIV.	0,5420
One cannot get AIDS/HIV from wearing clothes used by a person who has AIDS/HIV.	0,5228
One cannot get AIDS/HIV by sitting on a toilet seat that has been used by a person that has AIDS/HIV.	0,4394
One can get AIDS/HIV by touching someone who has AIDS/HIV.	0,3448
One can get AIDS/HIV from mosquitoes that can pass it on from one person to another.	0,3121
Minimum value: 0 Maximum value: 8	

4. Knowledge about prevention of HIV/AIDS (Factor 1, subgroup 3)

Description of item	Factor loading
Which of the following practices do you think provide protection against AIDS/HIV?	
Sex without a condom	0,2360
The use of birth control pills	0,2669
Self masturbation (Stimulation of one's own genitals)	0,3073
Mutual masturbation (heavy petting stimulation by partners)	0,2274
Sex with more than one partner as long as it is more than a month apart	0,3352
Sex with a condom that has been washed	0,2598
Petting (touching, hugging etc.)	0,2737
Sex without penetration	0,2608
Sex with a new condom	0,0395
The use of birth control injections	0,3263
Sex with one permanent uninfected partner only	0,2534
Minimum value: 0 Maximum value: 11	

5. Knowledge of protection against sexually transmitted diseases (Factor 8)

Description of item	Factor loading
Which of the following can protect one from getting sexually transmitted diseases?	
a) Injections	0,4539
b) Medicines	0,4119
c) Condom	-0,1572
Minimum value: 0 Maximum value: 3	

6. Perceptions of HIV/AIDS susceptibility (Factor 1, subgroup 4)

Description of item	Factor loading
Can teenagers (people under 20 years old) get AIDS?	0,3057
Is AIDS/HIV a disease from which mainly your own population group suffers?	0,2961
Is AIDS/HIV a disease from which mainly other population groups suffer?	0,2246
Do you think that all people can get AIDS/HIV?	0,3002
Do you think that AIDS/HIV is mainly a "gay disease / homosexual disease"?	0,2038
Do you think it is possible that even your best friend could get AIDS/HIV?	0,1878
Minimum value: 0 Maximum value: 8	

7. Perceptions of blood test for HIV/AIDS (Factor 1, subgroup 5)

Description of item	Factor loading
Is it true that a blood test can tell whether someone has AIDS/HIV?	0,2118
Are there places where one can have confidential bloodtests for AIDS/HIV?	0,1704
Minimum value: 0 Maximum value: 2	

8. Perceptions of condom use (Factor 3)

Description of item	Factor loading
How do you think boys feel about the use of the condom?	0,0575
How do you think girls feel about the use of the condom?	0,4060
Do you think it is a good thing for sexually active teenagers to use a a condom?	0,4469
Do you think that most of your friends would approve or disapprove of you using a condom in a sexual relationship?	0,5715
Do you think that your parents would approve or disapprove of you using a condom in a sexual relationship?	0,7609
Do you think that your teachers generally would approve or disapprove of you using a condom in a sexual relationship?	0,8140
Minimum value: 0 Maximum value: 8	

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9. Perceptions of social distance regarding HIV-infected people (Factor 4)

Description of item	Factor loading
Can anyone see immediately if a person has contracted the AIDS/HIV virus?	0,1718
Are you afraid of someone who has AIDS/HIV?	-0,5658
Should someone who has AIDS/HIV be isolated?	-0,4725
Will you remain friends with someone if you hear that that person has AIDS/HIV?	0,6821
Can a person who has AIDS/HIV continue with his/her work?	0,2670
Do you think a person who has AIDS/HIV has only himself to blame?	-0,1740
Would you be willing to share a classroom with someone who is infected with AIDS/HIV?	0,6638
Would you be ashamed of a family member if she/he had AIDS/HIV?	-0,4493
Do you think that once it is known that people have AIDS/HIV they will lose their jobs?	-0,0612
Minimum value: 0 Maximum value: 15	

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10. Perceptions of peer group pressure regarding sexual behaviour (Factor 5)

Description of item	Factor loading
Do you think that high school pupils in general are sexually active?	0,2818
Are any of your friends sexually active?	0,4857
Do you think it is a good thing for teenagers to be sexually active?	0,4822
If your boyfriend or girlfriend wants you to have sex to prove your love, would you do so?	0,6793
If you believe that you are unattractive and feel unhappy about it, will it make you feel better about yourself if you have sex with someone who wants you to?	0,5307
Do you think that men should generally make decisions for women?	0,0739
Minimum value: 0 Maximum value: 18	

11. Perceptions of seriousness of and outcome of HIV/AIDS (Factor 7)

Description of item	Factor loading
Have you ever heard of the AIDS/HIV virus (germ)	-0,2140
Have you ever heard of AIDS/HIV?	-0,2177
Do you believe that there really is something like AIDS/HIV?	-0,3460
Do you think that AIDS/HIV is a serious illness?	-0,2806
Can doctors cure AIDS/HIV?	-0,0655
Can traditional healers cure AIDS/HIV?	-0,1235
Is there a vaccine against AIDS/HIV?	-0,0946
Do you know anybody who has AIDS/HIV?	0,0119
Do you think it is worthwhile trying to protect yourself against AIDS/HIV?	-0,1428
Do you think that people who are infected with AIDS/HIV need a lot of emotional support?	-0,0223
Have you ever heard of sexually transmitted diseases?	-0,1774
Can a person have the AIDS/HIV virus for many years without becoming ill from AIDS/HIV?	-0,0943
Minimum value: 0 Maximum value: 34	

12. Acceptability of multiple sexual partners (Factor 1, individual item)

Description of item	Factor loading
Do you think it is a good or bad thing to have more than one sexual partner? Minimum value: 1 Maximum value: 2	0,0280

13. Communication regarding AIDS (Factor 6)

Description of item	Factor loading
Have you ever discussed AIDS/HIV with	
a) your parents?	0,3249
b) your grandparents?	0,4035
c) your brothers/sisters?	0,3627
d) your friends?	0,2406
e) your teachers?	0,3000
f) a health adviser?	0,4527
g) a chemist?	0,4517
h) a doctor/nurse/clinic staff/hospital staff?	0,5313
i) a priest/minister/members of you church?	0,4466
Have you ever sought information about AIDS/HIV yourself? Minimum value: 0 Maximum value: 10	0,3388

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14. Information on sexual matters (Factor 1, individual item)

Description of item	Factor loading
Do you think that teenagers have enough information about sexual matters? Minimum value: 0 Maximum value: 3	0,1976

15. Intention to undergo a blood test (Factor 1, individual item)

Description of item	Factor loading
Would you undergo a blood test if you suspected that you might have AIDS/HIV? Minimum value: 0 Maximum value: 3	0,1402

In discussions with Prof. Du Toit it was decided that although certain items had a low factor loading, they could be included in a particular field on the basis of theory and of face validity.

APPENDIX 4: ANOVA ANALYSES

	VARIABLE	SOURCE OF VARIATION	F. VALUE	D.O.F. N	P. VALUE
1	Knowledge of biological changes during puberty	Design	0,16	3 3429	0,9204
		Sex	9,86	1 3429	0,0017*
		Group	8,67	3 3429	<0,0001*
2	Knowledge of the transmission of AIDS via proved means	Design	33,67	3 3429	<0,0001*
		Sex	0,29	1 3429	0,5923
		Group	119,07	3 3429	<0,0001*
3	Knowledge of HIV/AIDS transmission via casual contact	Design	115,31	3 3429	<0,0001*
		Sex	2,53	1 3429	0,1120
		Group	184,79	3 3429	<0,0001*
4	Knowledge of prevention of HIV/AIDS	Design	38,29	3 3429	<0,0001*
		Sex	47,40	1 3429	<0,0001*
		Group	137,91	3 3429	<0,0001*
5	Knowledge of protection against STDS	Design	9,55	3 3429	<0,0001*
		Sex	0,00	1 3429	0,9507
		Group	81,42	3 3429	<0,0001*
6	Perceptions of HIV/AIDS susceptibility	Design	19,20	3 3429	<0,0001*
		Sex	7,90	1 3429	0,0050*
		Group	78,16	3 3429	<0,0001*
7	Perceptions of blood test for HIV/AIDS	Design	20,80	3 3429	<0,0001*
		Sex	26,46	1 3429	<0,0001*
		Group	13,81	3 3429	<0,0001*
8	Perceptions of condom use	Design	7,79	3 3429	<0,0001*
		Sex	67,91	1 3429	<0,0001*
		Group	49,42	3 3429	<0,0001*
9	Perceptions of social distance regarding HIV-infected people	Design	1,43	3 3429	0,2312
		Sex	1,64	1 3429	0,2009
		Group	9,08	3 3429	<0,0001*
10	Perceptions of peer group pressure regarding sexual behaviour	Design	8,51	3 3429	<0,0001*
		Sex	626,42	1 3429	<0,0001*
		Group	49,32	3 3429	<0,0001*
11	Perceptions of seriousness of and outcome of HIV/AIDS	Design	20,85	3 3429	<0,0001*
		Sex	0,34	1 3429	0,5584
		Group	98,72	3 3429	<0,0001*
12	Acceptability of multiple sexual partners	Design	14,58	3 3429	<0,0001*
		Sex	121,79	1 3429	<0,0001*
		Group	2,93	3 3429	0,0325*
13	Communication regarding AIDS	Design	18,68	3 3429	<0,0001*
		Sex	4,53	1 3429	0,0333*
		Group	43,17	3 3429	<0,0001*
14	Information on sexual matters	Design	4,84	3 3429	0,0023*
		Sex	49,41	1 3429	<0,0001*
		Group	9,08	3 3429	<0,0001*
15	Intention to undergo a blood test	Design	2,42	3 3429	0,0641
		Sex	0,78	1 3429	0,3766
		Group	13,73	3 3429	<0,0001*

* Level of significance is 5 %.

APPENDIX 5: DIFFERENCES BETWEEN MEAN SCORES IN POSTTESTING AND PRETESTING

In Figures 2 to 5 the Y axis indicates the increase or decrease in the difference between the mean scores of the posttests and pretests. The numbers 1 to 15 appear on the X axis. These numbers are explained in the following list:

1. Knowledge of the biological changes during puberty
2. Knowledge of the transmission of AIDS/HIV by proved means
3. Knowledge of transmission of AIDS/HIV by casual contact
4. Knowledge of the prevention of HIV/AIDS
5. Knowledge of protective measures against sexually transmitted diseases
6. Perceptions of HIV/AIDS susceptibility
7. Perceptions of blood tests for HIV/AIDS
8. Perceptions of condom use
9. Perceptions of social distance regarding HIV-infected people
10. Perceptions of peer group pressure regarding sexual behaviour
11. Perceptions of seriousness of and outcome of HIV/AIDS
12. Acceptability of multiple sexual partners
13. Communication regarding AIDS
14. Information on sexual matters
15. Intention to undergo a blood test

In all fields, except two, scores were calculated by subtracting the pretest mean score for each school from the corresponding posttest mean score. In the other two fields (9 and 10) a higher mean score indicated a more negative inclination. To bring it in accordance with the other fields in which a higher mean score can be seen as more positive (an improvement), the differences in the mean scores of these fields were calculated by subtracting the posttest mean score from the pretest mean score

FIGURE 2: PRETORIA AFRIKAANS SCHOOLS MEAN DIFFERENCES BETWEEN POST- AND PRETESTING SCORES

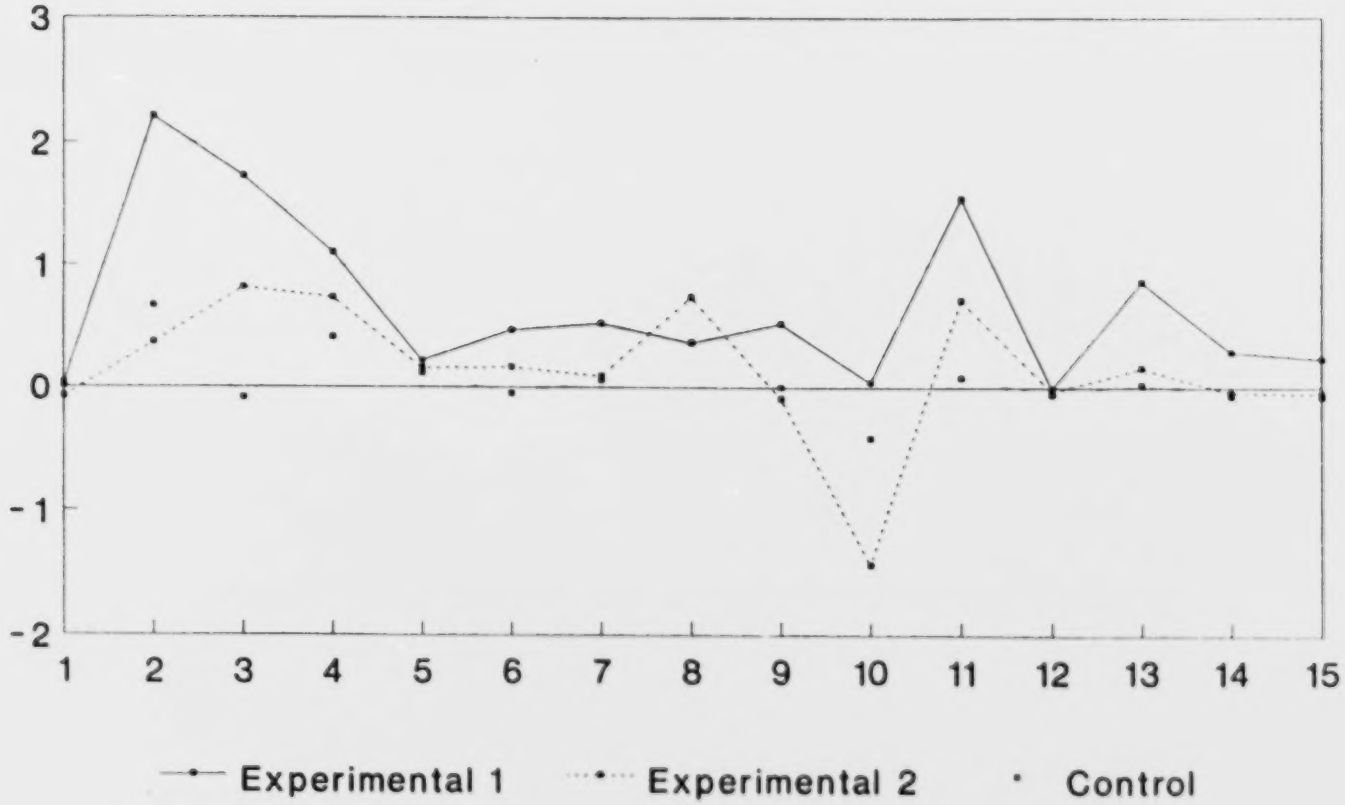


FIGURE 3: PRETORIA ENGLISH SCHOOLS MEAN DIFFERENCES BETWEEN POST- AND PRETESTING SCORES

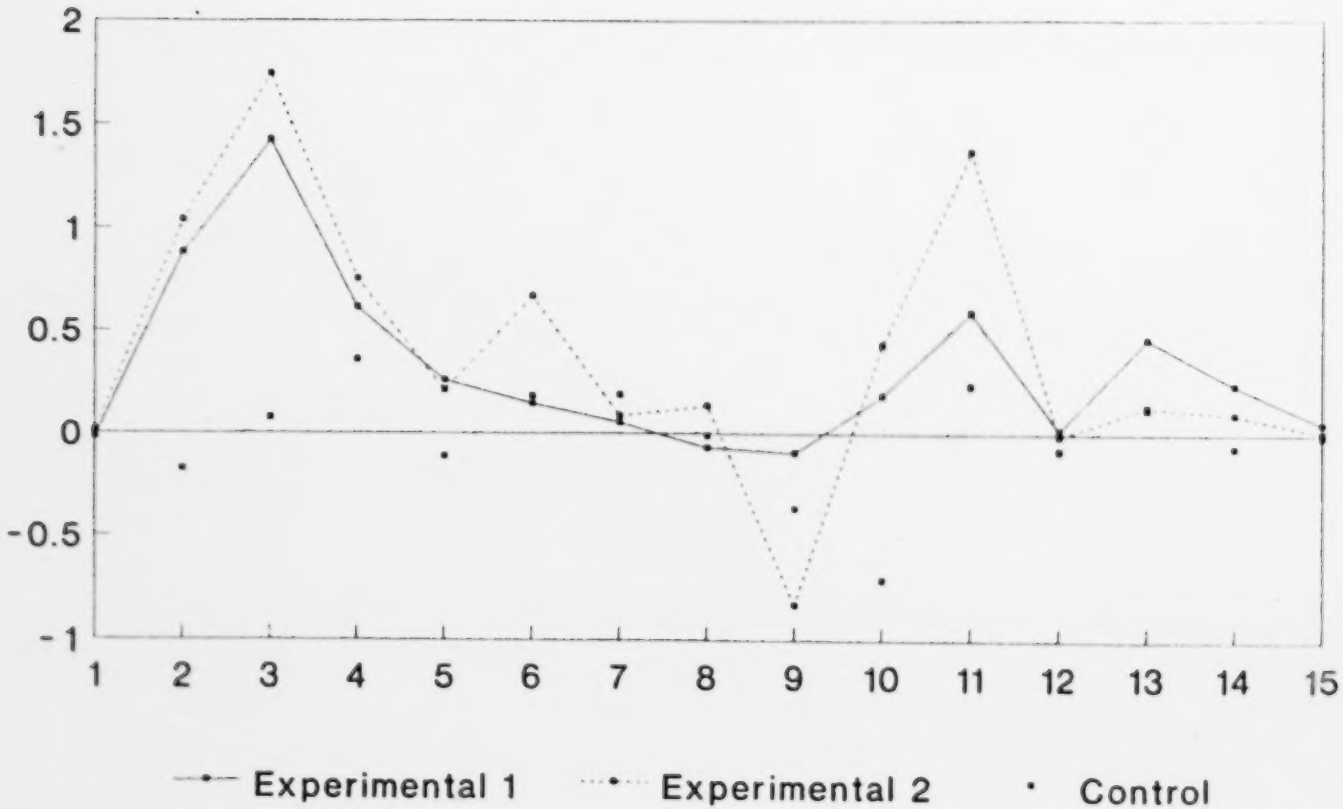


FIGURE 4: CAPE AFRIKAANS SCHOOLS MEAN DIFFERENCES BETWEEN POST- AND PRETESTING SCORES

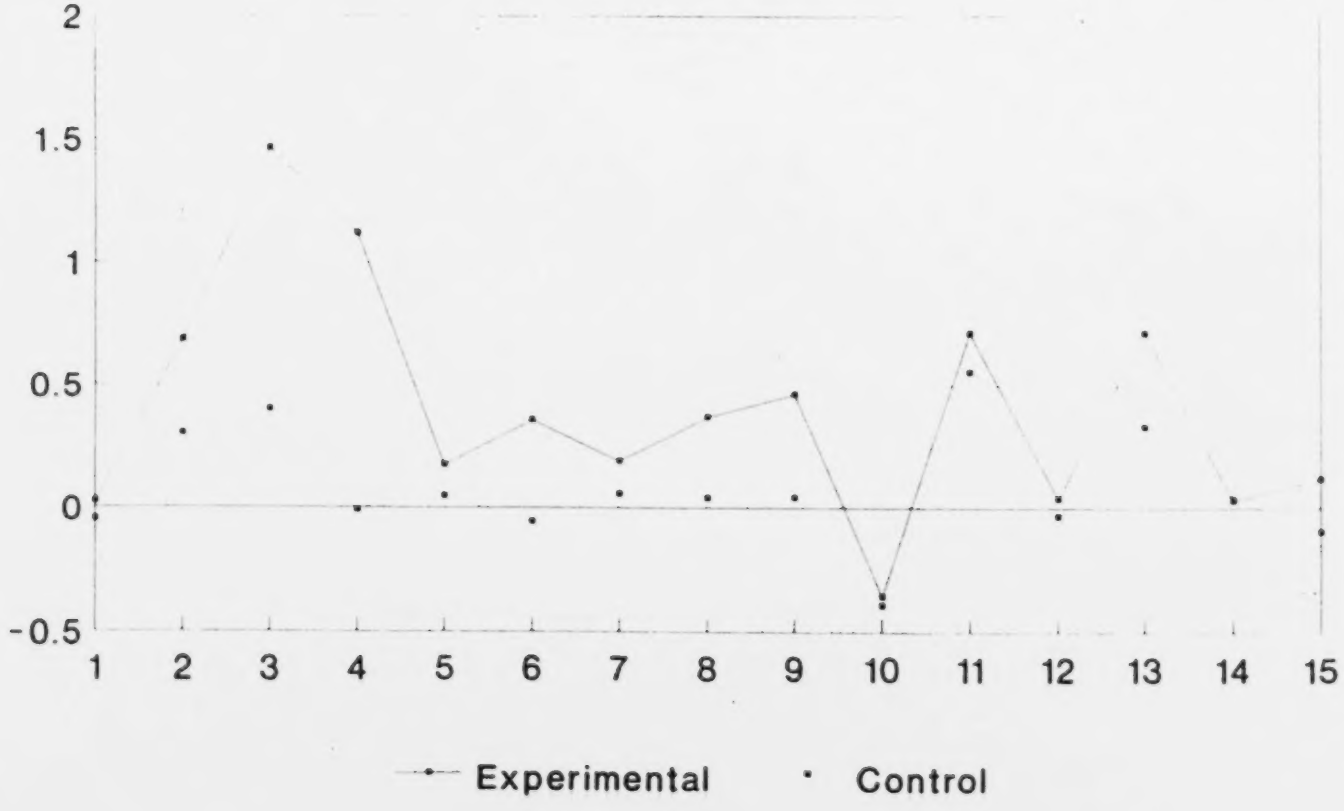
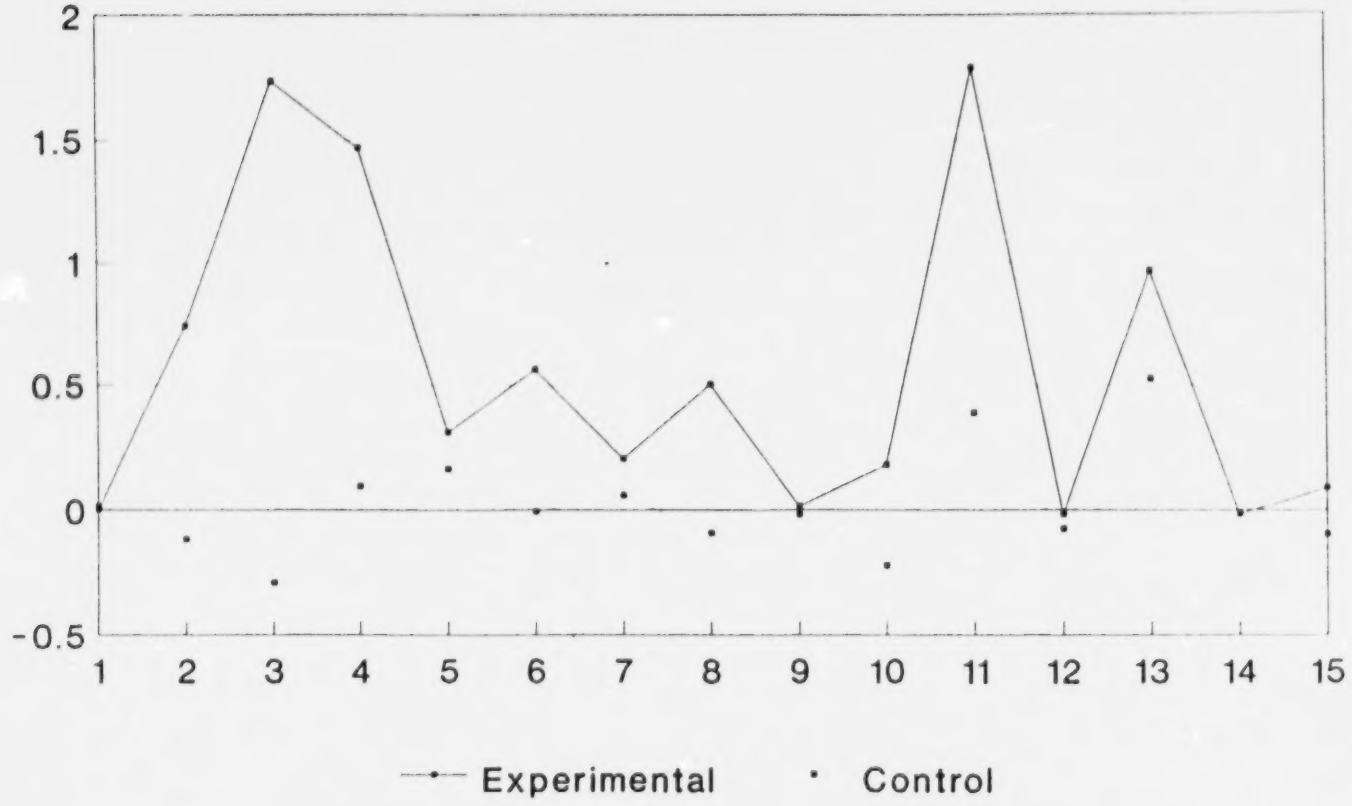


FIGURE 5: LAUDIUM ENGLISH SCHOOLS MEAN DIFFERENCES BETWEEN POST- AND PRETESTING SCORES



APPENDIX 6 : INDIVIDUAL ITEMS: PERCENTAGES

Note should be taken that only the most important responses were reported. However, in some instances all the responses were reported.

SECTION II

Which one of the following bodily (biological) changes is essential before a girl can fall pregnant?

	Schools			
	Experimental		Control	
	Pre-test	Post-test	Pre-test	Post-test
	%	%	%	%
Menstruation	80	87	81	86

Which one of the following bodily (biological) changes is essential before a boy can father a child?

	Schools			
	Experimental		Control	
	Pre-test	Post-test	Pre-test	Post-test
	%	%	%	%
Ejaculation	88	94	90	93

SECTION III

Do you think that high school pupils in general are sexually active?

	Schools			
	Experimental		Control	
	Pre-test	Post-test	Pre-test	Post-test
	%	%	%	%
Yes	56	66	67	68
No	15	15	12	15
Don't know	30	19	21	17

Are any of your friends sexually active?

	Schools			
	Experimental		Control	
	Pre-test	Post-test	Pre-test	Post-test
	%	%	%	%
Yes	36	42	33	40
No	40	39	44	42
Don't know	24	19	23	18

Do you think it is a good thing for teenagers to be sexually active?

	Schools			
	Experimental		Control	
	Pre-test	Post-test	Pre-test	Post-test
	%	%	%	%
Yes	11	12	15	17
No	73	74	70	66
Don't know	16	14	15	17

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If your boyfriend or girlfriend wants you to have sex to prove your love, would you do so?

	Schools			
	Experimental		Control	
	Pre-test	Post-test	Pre-test	Post-test
	%	%	%	%
Yes	11	12	14	19
No	77	79	74	68
Don't know	12	10	13	13

If you believe that you are unattractive and feel unhappy about it, will it make you feel better about yourself if you have sex with someone who wants you to?

	Schools			
	Experimental		Control	
	Pre-test	Post-test	Pre-test	Post-test
	%	%	%	%
Yes	9	9	12	14
No	82	81	77	76
Don't know	9	9	10	10

Do you think that men should generally make decisions for women?

	Schools			
	Experimental		Control	
	Pre-test	Post-test	Pre-test	Post-test
	%	%	%	%
Yes	8	6	8	9
No	88	91	87	88
Don't know	4	3	5	3

Do you think that teenagers have enough information about sexual matters?

	Schools			
	Experimental		Control	
	Pre-test	Post-test	Pre-test	Post-test
	%	%	%	%
Yes	20	28	33	33
No	67	59	55	54
Don't know	13	14	12	14

Whose ideas and advice do you follow most?

	School			
	Experimental		Control	
	Pre-test	Post-test	Pre-test	Post-test
	%	%	%	%
Friends	10	8	14	12
Own	54	44	52	43
Parents	36	48	33	44

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SECTION IV

Have you ever heard of sexually transmitted diseases?

	Schools			
	Experimental		Control	
	Pre-test	Post-test	Pre-test	Post-test
	%	%	%	%
Yes	91	96	92	94

Which of the following can protect one from getting sexually transmitted diseases?

	Schools			
	Experimental		Control	
	Pre-test	Post-test	Pre-test	Post-test
	%	%	%	%
Injections / No	45	65	51	53
Medicines / No	47	66	57	60
Condom use /Yes	79	70	79	81

SECTION V

	Schools			
	Experimental		Control	
	Pre-test	Post-test	Pre-test	Post-test
	%	%	%	%
Have you ever heard of the AIDS/HIV virus germ?				
Yes	97	98	97	98
Have you ever heard of AIDS/HIV?				
Yes	96	99	97	98
Do you believe that there really is something like AIDS/HIV?				
Yes	96	98	96	97
Do you think that AIDS/HIV is a serious illness?				
Yes	98	98	97	97

SECTION VI

One can get AIDS/HIV by touching someone who has AIDS				
Disagree	88	94	88	91
One cannot get AIDS/HIV by having sex with someone who has AIDS				
Disagree	73	69	76	70
A pregnant woman can pass AIDS to her unborn baby.				
Agree	84	90	89	89

	Schools			
	Experimental		Control	
	Pre-test	Post-test	Pre-test	Post-test
	%	%	%	%
One can get AIDS/HIV by sharing food with someone who has AIDS				
Disagree	62	81	62	66
One cannot get AIDS/HIV by sitting on a toilet seat that has been used by a person that has AIDS/HIV.				
Agree	47	66	49	48
One can get AIDS/HIV by receiving blood that was donated by a person who has AIDS.				
Agree	94	90	96	95
One cannot get AIDS/HIV by swimming in the same swimming pool with someone who has AIDS/HIV.				
Agree	58	73	62	56
One can get AIDS/HIV by using the same injection needles that other persons have used when injecting yourself with drugs.				
Agree	93	94	96	93
One can get AIDS/HIV from mosquitoes that can pass it on from one person to another.				
Disagree	35	67	34	37
A man can get AIDS/HIV by having sex with another man who has AIDS/HIV.				
Agree	82	87	84	86
One can get AIDS/HIV by coming into contact with the perspiration of a person who has AIDS/HIV.				
Disagree	53	74	53	54
AIDS/HIV is caused by a virus.				
Agree	75	86	77	82
The body of a person with AIDS cannot defend itself against other diseases.				
Agree	70	81	77	80
AIDS/HIV cannot be spread when two uninfected people have sex.				
Agree	59	68	69	72

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	Schools			
	Experimental		Control	
	Pre-test	Post-test	Pre-test	Post-test
	%	%	%	%
A woman cannot get AIDS/HIV by having sex with another woman who has AIDS/HIV				
Disagree	53	64	58	61
AIDS/HIV cannot be transmitted by semen (sperms).				
Disagree	58	70	63	66
One cannot get AIDS/HIV from wearing clothes used by a person who has AIDS/HIV.				
Agree	66	80	72	69
AIDS/HIV can be transmitted by vaginal fluids.				
Agree	53	69	58	62
AIDS/HIV can only be transmitted by a person who is infected with AIDS/HIV. Agree	70	79	69	75
One can get AIDS/HIV when someone who has AIDS/HIV coughs, or sneezes on you.				
Disagree	55	78	57	60
SECTION VII				
Can a person have the AIDS/HIV virus for many years without becoming ill from AIDS/HIV?				
Yes	52	73	66	70
Can anyone see immediately if a person has contracted the AIDS virus? No	55	89	58	82
Can doctors cure AIDS/HIV?				
NO	83	90	85	86
Can traditional healers cure AIDS?				
No	71	84	78	80
Is there a vaccine against AIDS?				
No	54	77	67	72
Is is true that someone who suffers from sexually transmitted disease is more likely to get AIDS/HIV?				
Yes	51	65	47	52
Is it true that a blood test can tell whether someone has AIDS?				
Yes	89	90	91	91

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		Schools			
		Experimental		Control	
		Pre-test	Post-test	Pre-test	Post-test
		%	%	%	%
Would you undergo a blood test if you suspected that you might have AIDS?	Yes	83	87	88	85
Are there places where one can have confidential bloodtests for AIDS/HIV?	Yes	56	75	78	67
SECTION VIII					
Do you know anybody who has AIDS/HIV?	Yes	2	5	5	7
	No	96	92	93	91
	Don't know	2	3	2	2
Are you afraid of someone who has AIDS/HIV?	No	39	56	36	47
Should someone who has AIDS/HIV be isolated?	No	54	68	59	66
Do you think it is possible that even your best friend could get AIDS/HIV?	Yes	84	88	85	87
Will you remain friends with someone if you hear that that person has AIDS/HIV?	Yes	61	67	59	61
Can a person who has AIDS/HIV continue with his/her work?	Yes	40	51	46	49
Do you think a person who has AIDS has only himself to blame?	No	57	56	61	55
Do you think that people who are infected with AIDS/HIV need a lot of emotional support?	Yes	83	87	87	87
Would you be willing to share a classroom with someone who is infected with AIDS/HIV?	Yes	59	69	54	58
Would you be ashamed of a family member if she/he had AIDS/HIV?	No	51	54	50	47

	Schools			
	Experimental		Control	
	Pre-test	Post-test	Pre-test	Post-test
	%	%	%	%
Do you think that once it is known that people have AIDS/HIV they will lose their jobs?				
No	8	11	7	8
SECTION IX				
Can teenagers (people under 20 years old) get AIDS?				
Yes	94	98	95	96
Is AIDS/HIV a disease from which mainly your own population group suffers? No	59	67	72	72
Is AIDS/HIV a disease from which mainly other population groups suffer? No	35	45	41	43
Do you think that all people can get AIDS/HIV?				
Yes	85	92	86	88
Do you think that AIDS/HIV is mainly a homosexual disease?				
No	54	62	54	53
SECTION X				
In a sexual relationship who do you think should be responsible for the protection against AIDS/HIV?				
Both partners	97	98	98	99
Which of the following practices do you think provide protection against AIDS/HIV?				
a) Sex without a condom				
No	80	82	85	79
b) The use of birth control pills				
No	61	73	70	68
c) Self masturbation				
Yes	23	43	29	37
d) Mutual masturbation				
Yes	19	29	22	30
e) Sex with more than one partner as long as it is more than a month apart?				
No	74	82	78	79
f) Sex with a condom that has been washed No	69	82	77	79
g) Petting				
Yes	57	68	57	61
h) Sex without penetration				
No	28	43	34	36

	Schools			
	Experimental		Control	
	Pre-test	Post-test	Pre-test	Post-test
	%	%	%	%
i) Sex with a new condom				
Yes	72	67	69	73
j) The use of birth control injections				
No	53	72	62	64
k) Sex with one permanent uninfected partner only				
Yes	72	80	80	82
Do you think it is a good or bad thing to have more than one sexual partner? Bad	94	95	93	87
How do you think boys feel about the use of the condom?				
Positive	69	72	69	71
Negative	31	28	31	29
How do you think girls feel about the use of the condom?				
Positive	80	83	80	79
Negative	20	17	20	21
Do you think it is a good thing for sexually active teenagers to use a condom?				
Yes	82	85	84	86
Do you think that most of your friends would approve or disapprove of you using a condom in a sexual relationship?				
Approve	84	84	84	87
Disapprove	17	16	16	13
Do you think that your parents would approve or disapprove of you using a condom in a sexual relationship?				
Approve	81	87	85	85
Disapprove	19	14	15	15
Do you think that your teachers would approve or disapprove of you using a condom in a sexual relationship?				
Approve	84	87	86	88
Disapprove	16	13	14	12
Do you think it is worthwhile to protect yourself against AIDS?				
Yes	96	96	97	.96

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Section XI

		Schools			
		Experimental		Control	
		Pre-test	Post-test	Pre-test	Post-test
		%	%	%	%
Have you ever sought information about AIDS/HIV yourself?					
Yes		35	42	35	34.
Have you ever discussed AIDS/HIV with					
your parents?	Yes	46	50	51	53
your grandparents?	Yes	8	11	8	8
your brothers/sisters?	Yes	38	44	39	44
your friends?	Yes	76	84	83	84
your teachers?	Yes	43	67	47	55
a health adviser?	Yes	18	20	16	19
a chemist?	Yes	6	7	3	7
a doctor/clinic staff?	Yes	15	18	15	18
a priest/minister?	Yes	7	8	6	7

APPENDIX 7

PRESCRIBED READING MATERIALS FOR THE PRESENTATION OF THE MODULES:

BURNS, R.B. 1988. The Lifecraft Series: Book 1-4. College Tutorial Press: Cape Town.

DIE DEPARTEMENT VAN NASIONALE GESONDHEID & BEVOLKINGSONTWIKKELING. 1991. Vroue en Vigs. Primêre Gesondheidsorg.

GERDES, L.C. 1988. The Developing Adult. 2nd ed. Butterworths. Chapter 13.

SAPIRE, K.E. 1986. Contraception and Sexuality in Health and Disease. Mc Graw-Hill Book Co: Johannesburg. pp.418-432

THE DEPARTMENT OF NATIONAL HEALTH AND POPULATION DEVELOPMENT. 1991 Teengagers and AIDS. Primary Health Care

THE DEPARTMENT OF NATIONAL HEALTH AND POPULATION DEVELOPMENT. 1991 Women and AIDS. Primary Health Care

THE DEPARTMENT OF NATIONAL HEALTH AND POPULATION DEVELOPMENT. 1987 The facts about sexuality. Keep well - teachers guide. Primary Health Care

THE PRETORIA NEWS. 1991. Understanding and preventing AIDS.

THE PRETORIA NEWS. 1991. Verstaan en voorkom VIGS.

AMENDMENTS OF THE MODULES BY MRS. N. LOUW (TED)

The following amendments are presented in the same way as presented by Mrs. N. Louw.

Module 1

(Bied liewers na module 2 aan)
By doelwitte voeg by: Kind as totale wese: Intellektueel, sosiaal, emosioneel, geestelik en liggaamlik.
Voeg by onder aan p. 1: Wat is die verantwoordelikheid wat hiermee saamgaan?
Op p. 2 by die derde dinkskrum, voeg by: Gelagsgemeenskap binne die huwelik.

Module 8

Op p. 19 voeg by na die tweede paragraaf: Moraliteitskrises - seksuele rewolusie, mense weet nie wat reg/verkeerd is nie.
Na die derde paragraaf: Onderwyser se begeleidende rol.
By die eerste doelwit: Voeg by: waarom sekere adolessente seksueel aktief raak.
Voeg by as doelwitte:
Om die leerlinge te begelei na seksuele weerhouding voor die huwelik.
Bewustheid oor tienerswangerskappe en skuldgevoelens.
Voeg by leeraktiwiteite:
Voeg by vraelys p.21 - Is dit reg/verkeerd volgens wat ek glo.
Voeg by 3. p. 22 - Ek dink seks voor die huwelik is verkeerd.
Voeg by 5. p. 22 - Ek hoef nie met my liggaam vir iets te betaal nie.
Voeg by 9. p.23 - Dit is bedoel vir binne die huwelik.
Voeg by p.23 - Waarin glo ek?

Module 9

Voeg by die doelwitte:
Om 'n bewustheid te kweek oor die gevolge van seksuele losbandigheid.
Om 'n bewustheid te kweek oor verantwoordelike en onverantwoordelike gedrag.

Voeg by onder aan p.26 as nog 'n mite: Slegs homoseksuele mense het sulke siektes.

Module 10

Voeg by as doelwit:

Die enigste oplossing vir die vigsepidemie: 'n verandering van leefstyl vanaf seksuele losbandigheid na kuisheid.

Voeg by:

Op p.31 (m) : Om onbesmet in 'n heilige huwelik te gaan is die enigste veilige manier.

Op p. 32 (s) : Verander "Vals" na "Waar" en voeg 'n "maar" voor die res van die antwoord in.

Op p. 33 (v) aan die einde: skraap "en lewenslange" en voeg by na "seksmaat": binne 'n huwelik.

Op p. 33 (w) : Vervang "langdurige verhouding" met: 'n Verhouding binne die huwelik.

Op p. 34 (y) en (z) skraap alles oor orale seks.

Op p. 36 : Voeg by :

(p) .... nie weet wat reg en verkeerd is nie.

(q) .... nie hou by die riglyne wat die Bybel/godsdiens gee nie.

APPENDIX 8

REPORT ON SUBPROJECT: THE DEVELOPMENT OF AN EXPERIMENTAL THEATRE PROGRAMME FOR AIDS EDUCATION AT SECONDARY SCHOOL LEVEL

EUNICE MALAN

1. PROBLEM AREA

Although theatre techniques have been used for AIDS education with remarkable success elsewhere in Africa and in other developing countries abroad, very little has been done in this regard locally. In conjunction with the larger project on AIDS education done by the HSRC, this subproject was undertaken to investigate the possibilities of using theatre techniques locally. It was essentially an experimental pilot project.

2. AIMS

2.1 To investigate the use of theatre techniques developed elsewhere for local AIDS education at secondary level in local black schools.

2.2 To experiment with techniques in order to develop suitable models for local school education.

3. METHODOLOGY

The quantitative phase of the project entailed the use of questionnaires to test pupils' knowledge of AIDS before and after the practical programme, at a school in Soweto, and to compare this knowledge with that of pupils at a control school. The qualitative phase entailed the active participation of students in testing various techniques.

4. RESEARCH STEPS

Forte High School in Dobsonville was identified by the Department of Education and Training as the school to be used for the experimental AIDS educa-

tion programme. After the initial discussions with the headmaster and the guidance teacher, the idea of having such a programme done with the school's Standard 7 students was received enthusiastically. The first questionnaire was completed by the students of both Forte High School and Lavela High School, which was identified as the control school. The researchers, Eunice Malan and Khuli Ngoasheng, had one meeting with the pupils in the individual classes in which the process was explained. The Monday of the following week, serious disturbances broke out in the area and the school was closed until further notice. The fact that the school is located opposite hostels meant that students were not safe at school during this period and teachers could not take responsibility for them. They returned to school just before the holidays started and some five weeks later the programme could be resumed. However, because of a tense situation between the hostel dwellers and the students, their end-of-year exams began early and there was no time to continue the programme and it was also impossible to do the post-testing.

The report which follows deals only with the actual work that was done at the school until practical problems made it impossible to continue.

5. QUESTIONNAIRE

The questionnaire was completed by all the students at both the experimental school and the control school. The contents of the questionnaire was discussed with the teachers who took responsibility for its completion. Issues which were not clear were explained and during the first week the questionnaires were completed by the students.

Although the teachers had to assist the students in the completion of the questionnaires it seemed after a random examination of some of the completed questionnaires and discussions with some students that not all the questions were always clearly understood. This could possibly be attributed to the fact that English is often used as a second and even third language by both students and teachers.

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6. FIRST SESSIONS: PLANNING GROUP WORK

There were 287 Standard 7 students, divided into seven classes. Classes were dealt with individually in periods of an hour long. The first part of the period was spent trying to establish their level of knowledge on AIDS. This was done in the form of questions and answers. After this the process which they would work through during the next weeks, was explained to them. The classes were divided into four groups of approximately ten students each.

They would have to decide on a story which they would like to present as a drama. There were only two prerequisites: it had to deal with AIDS and it had to be factually correct. Material, such as articles from popular magazines (e.g. Drum, Bona, Tribute, Pace and True Love) the booklet "Teenagers and AIDS" distributed by the Department of National Health and Population Development as well as academic journals, was supplied in which they could research the details of the subject or find ideas for their stories. They had to do the reading themselves, but were invited to check with the facilitator at any time if they were unsure of something. The facilitator would also go from group to group to observe and help them to work out their story and its presentation.

During the first sessions the students talked about what they would like to do within their groups. There was, however, one exception. The Standard 7A class had heard from their friends what was being done in the programme. They did not want to be divided into groups as they had already written their play by the time the facilitator saw them for the first time. This play involved the whole class and the facilitator saw no reason why they should not be allowed to continue.

There were basically three different forms of drama selected by the groups. Most of the groups wanted to do a play. Two groups wanted to write and perform a rap song and one group decided to do a dance with narration and existing music. The groups wishing to do a rap song requested assistance with the renting of musical instruments. It was explained that this was not possible, but that they would be given information on how to make their own

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cheap musical instruments. This information was collected, but could unfortunately not be given to the groups as there were no further meetings with the particular groups.

7. SECOND SESSION: GUIDING GROUP WORK

During the second week the facilitators only managed to see two classes for a second time before the programme was suspended because of the unrest. The groups had already decided what they wanted to do and the session started off with the facilitator moving from one group to another to hear their decisions and to give advice.

The issues that the groups addressed within the stories they decided to perform, included the following:

- The relationship between prostitution and AIDS
- Peer group pressure and sexual activity
- Unwanted pregnancy and the resulting infection of the unborn baby with AIDS
- The dangers of contracting AIDS through a backstreet abortion
- The visual presentation of the illness and its stages by using dance accompanied by music and narration
- Teenage promiscuity and the danger of contracting AIDS
- The implications of the "invisibility" of AIDS for sexual activity among teenagers
- Teenage relationships and sexual activity

The stories that the groups worked on clearly indicated that they were able to use the information available to them to create simulated situations resembling real life and that in the stories they addressed their concerns or the concerns with which they could easily identify.

8. FURTHER PLANNING

The idea was to allow the groups to work on their stories, to rehearse and refine them with the facilitator's help during the next three sessions. The last session would be used to perform their plays for their classmates as well as for a selection of the teachers and some colleagues from the HSRC, who would help in the qualitative evaluation of the work that the students had done. The second questionnaire would have been completed in the following week.

9. CONCLUSIONS AND RECOMMENDATIONS

After the discussions with the teacher concerned and the deputy headmaster the conclusion was reached that experimental work in black schools was more likely to succeed at the beginning of the year when the students' workload was not as heavy. According to the teachers, student-related unrest seemed to escalate towards the end of the year. The school would still like to be involved in such a programme, if this could be done at the beginning of 1992. The enthusiasm and subsequent disappointment of the students when the programme had to be cancelled, indicated the need for such educational programmes.

Although the experiment could not be completed, a number of conclusions could be drawn from the work that was done.

- The experiment was received with great enthusiasm by the students.
- The fact that they were to be creatively involved in the learning process was extremely important to them.
- Their involvement in the process of researching the issue themselves was as important to them as their creative input.
- Nobody was allowed to be passive in the programme. They appreciated this as each one felt that he or she had something to contribute.
- The students appreciated the fact that their own insight and knowledge were as important as that of the facilitator.

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It is strongly recommended that this experiment be completed in order to derive a practical model which can be used in schools, especially black schools, in the land. In many cases where theatre has been used to teach people about AIDS in South Africa, a product was shown and no sustained active participation over a longer period of time was required. The theatre techniques used in this incomplete experiment, focus on sustained participation with the advantage of reinforcing knowledge and emphasize the process, not the product. As the techniques have not yet been fully tested and adapted to the particular demands of South African circumstances it would be very valuable if such an experiment could be completed.